CMT-EP50

SERVICE MANUAL

Ver 1.1 2001.09

US Model
Canadian Model
AEP Model
UK Model
E Model
Chinese Model

- CMT-EP50 is composed of following models.
  As for the service manual, it is issued for each component model, then, please refer to them.

COMPONENT MODEL NAME

	CMT-EP50
COMPACT DISC DECK RECEIVER SYSTEM	HCD-EP50
SPEAKER SYSTEM	SS-CEP50

- Abbreviation
  AR : Argentine model
  CND : Canadian model
  CH : Chinese model
  HK : Hong Kong model
  MX : Mexican model
  SP : Singapore model

SPECIFICATIONS

Power requirements
North American model: 120 V AC, 60 Hz
European model: 230 V AC, 50/60 Hz
Mexican model: 120 V AC, 60 Hz
Argentine model: 220 V AC, 50/60 Hz
Hong Kong model: 230 V AC, 50/60 Hz
Chinese model: 220 V AC, 50/60 Hz
Other models: 230 V AC, 50/60 Hz

Power consumption
U.S.A. model: 35 W
Canadian model: 35 W
European model: 40 W
0.9 W (in the standby mode)
Other models: 40 W

Dimensions (w/h/d): Approx. 145 × 238 × 234 mm

Mass: Approx. 3.4 kg

Supplied accessories: AM loop antenna (1)
Remote Commander (1)
Batteries (2)
FM lead antenna (1)
Speaker pads (8)

Design and specifications are subject to change without notice.

PARTS LIST

Part No.	Description	Remark
	ACCESSORIES	
	**********	
1-476-917-11	REMOTE COMMANDER (RM-SEP50A) (EXCEPT AEP, UK)	
1-476-918-11	REMOTE COMMANDER (RM-SEP50) (AEP, UK)	
1-501-843-11	ANTENNA, LOOP (AM)	
1-793-184-21	CONNECTOR (F TYPE ADAPTOR) (for FM ANTENNA)	
1-823-170-11	CORD (WITH CONNECTOR) (FM ANTENNA)	
3-029-170-01	FOOT (SPK) (for SS-CEP50)	
4-234-817-11	MANUAL, INSTRUCTION (DANISH, FINNISH) (AEP)	
4-234-817-21	MANUAL, INSTRUCTION (PORTUGUESE) (AEP)	
4-234-817-31	MANUAL, INSTRUCTION (RUSSIAN) (AEP)	
4-234-818-11	MANUAL, INSTRUCTION (ENGLISH) (EXCEPT MX)	
4-234-818-21	MANUAL, INSTRUCTION (FRENCH, SPANISH)	(US, CND, AEP, SP)
4-234-818-31	MANUAL, INSTRUCTION (SPANISH) (AR, MX)	
4-234-818-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, ITALIAN, SWEDISH, POLISH) (AEP)	
4-234-818-51	MANUAL, INSTRUCTION (TRADITIONAL CHINESE)	(HK, SP)
4-234-819-11	MANUAL, INSTRUCTION (GREEK) (AEP)	
4-234-819-21	MANUAL, INSTRUCTION (HUNGARIAN, CZECH) (AEP)	
4-234-819-31	MANUAL, INSTRUCTION (TURKISH) (AEP)	
4-234-819-41	MANUAL, INSTRUCTION (SLOVAKIAN) (AEP)	
4-236-200-01	REMOTE BATTERY COVER (for RM-SEP50/SEP50A)	
4-237-828-11	MANUAL, INSTRUCTION (ENGLISH, SIMPLIFIED CHINESE) (CH)	

MICRO Hi-Fi COMPONENT SYSTEM

9-873-898-12
2001I0500-1
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Sony Corporation
Home Audio Company
Shinagawa Tec Service Manual Production Group

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REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.1	2001.09	Addition of Chinese model.
1.0	2001.06	New

HCD-EP50

SERVICE MANUAL

Ver 1.1 2001.09

US Model
Canadian Model
AEP Model
UK Model
E Model
Chinese Model

HCD-EP50 is the amplifier, CD player, tape deck and tuner section in CMT-EP50.

CD Section	Model Name Using Similar Mechanism	HCD-EP30
	CD Mechanism Type	CS-21SC-1280
TAPE Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	CRL3439

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS:
(US model only)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

with 8 Ω loads both channels driven, from 120 - 10,000 Hz; rates 12 W per channel minimum RMS power, with no more than 10% total harmonic distortion from 250 mW to rated output.

Amplifier section Canadian model:

Continuous RMS power output (reference)
12 + 12 W
(8 Ω at 1 kHz, 10% THD)

AEP, UK models:

DIN power output (rated) 11 + 11 W
(8 Ω at 1 kHz, DIN)
Continuous RMS power output (reference)
12 + 12 W
(8 Ω at 1 kHz, 10% THD)
Music power output (reference)
27 + 27 W

Other models:

The following measured at AC 230 V, 50/60 Hz
DIN power output (rated) 11 + 11 W
(8 Ω at 1 kHz, DIN)
Continuous RMS power output (reference)
12 + 12 W
(8 Ω at 1 kHz, 10% THD)

Outputs
PHONES: (stereo mini jack) Accepts headphones of 8 Ω or more
SPEAKER: Accepts impedance of 8 to 16 Ω

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ=780 nm) Emission duration: continuous
Frequency response	20 Hz - 20 kHz (±0.5 dB)

Tape player section

Recording system	4-track 2-channel stereo
Frequency response	50 - 13 000 Hz (±3 dB), using Sony TYPE I cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 - 108.0 MHz
Antenna	FM lead antenna
Antenna terminal	75 Ω coaxial
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range

Pan-American model:	530 - 1 710 kHz (with the interval set at 10 kHz) 531 - 1 710 kHz (with the interval set at 9 kHz)
European model:	531 -1 602 kHz (with the interval set at 9 kHz)
Other models:	531 - 1 602 kHz (with the interval set at 9 kHz) 530 - 1 710 kHz (with the interval set at 10 kHz)
Antenna	AM loop antenna
Antenna terminal	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements

US, Canadian models:	120 V AC, 60 Hz
AEP, UK models:	230 V AC, 50/60 Hz
Mexican model:	120 V AC, 60 Hz
Argentine model:	220 V AC, 50/60 Hz
Hong Kong model:	230 V AC, 50/60 Hz
Chinese model:	220 V AC, 50/60 Hz
Other models:	230 V AC, 50/60 Hz

Power consumption

US model:	35 W
Canadian model:	35 W
AEP, UK models:	40 W 0.9 W (in the standby mode)
Other models:	40 W
Dimensions (w/h/d):	Approx. 145 × 238 × 234 mm
Mass:	Approx. 3.4 kg
Supplied accessories:	AM loop antenna (1) Remote Commander (1) Batteries (2) FM lead antenna (1) Speaker pads (8)

Design and specifications are subject to change without notice.

COMPACT DISC DECK RECEIVER

9-873-897-12
2001I0500-1
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Shinagawa Tec Service Manual Production Group

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Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

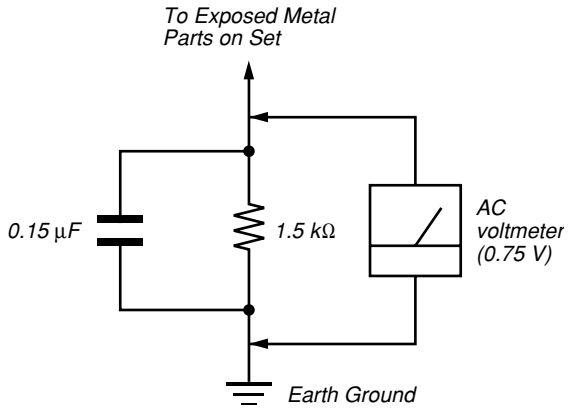


Fig. A. Using an AC voltmeter to check AC leakage.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLING LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

与安全有关的零部件须知

在原理图上用阴影及⚠标记来识别的零部件在安全操作上是具有关键性的。这些零部件要用本手册中所示的部件号对应的索尼零部件进行更换。

在安全操作上具有关键性的电路调整与索尼公司出版的维修手册完全一致。在更换关键零部件时或怀疑动作失常时，请进行这些调整操作。

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

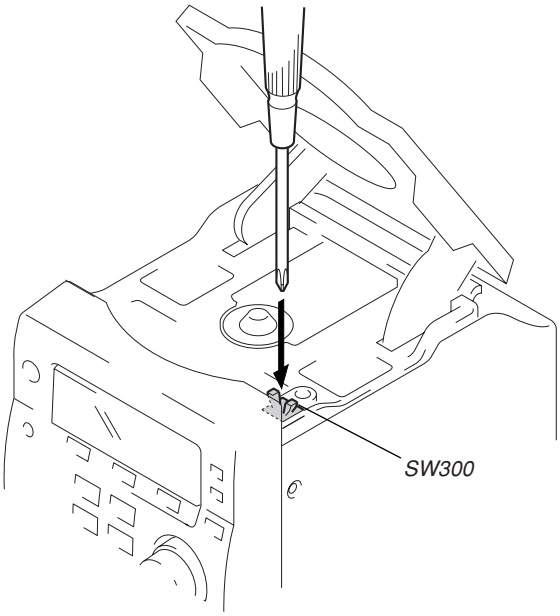
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

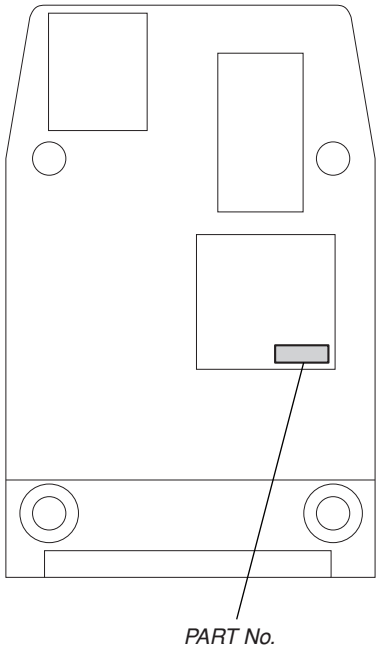
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Press the I/⏻ button to the power ON with no disc inserted and press the CD button.
2. Open the lid for CD.
3. Turn on SW300 as following figure.
4. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down five times for the focus search.



• MODEL IDENTIFICATION
– Bottom View –

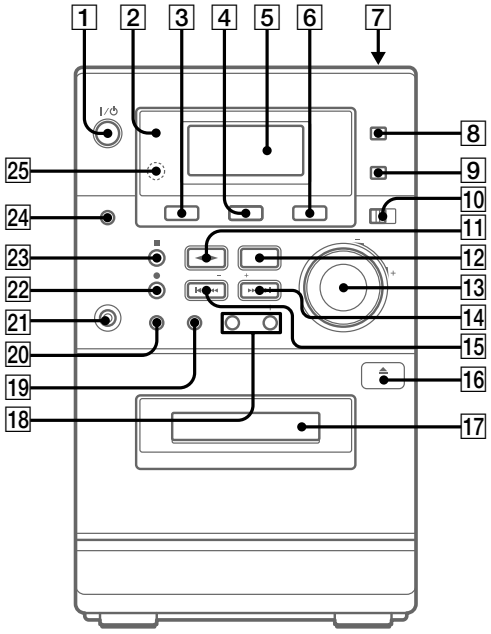


MODEL	PART No.
AEP and UK models	4-235-177-0□
US and Canadian models	4-235-179-0□
Singapore and Hong Kong models	4-235-180-0□
Mexican model	4-235-182-0□
Argentina model	4-235-183-0□
Chinese model	4-238-634-0□

This section is extracted from instruction manual.

SECTION 2
GENERAL

LOCATION OF CONTROLS
– Front Panel –



Cassette compartment 17 (13)
CD 4 (8, 9, 14)
DISPLAY 24 (9, 11)
Display Window 5 (8, 9, 10)
ENTER 19 (7, 9, 10, 12)
ISS 10 (14)
MEGA BASS 8 (16)
MONO STEREO 10 (11)
MUSIC MENU 9 (16)
PHONES jack 21
PLAY MODE 20 (8, 9)
PRESET +/ 18 (10, 11, 12)
RDS (European model only)/DIR 20 (12, 13, 14, 15)
Remote sensor 25
TAPE 3 (13)
TIMER indicator 2 (15, 18)
TUNER 6 (10, 11, 14)
TUNER MEM 19 (10)
TUNING + 14 (10, 11, 12, 15)
TUNING – 15 (10, 11, 12, 15)
VOLUME control 13

BUTTON DESCRIPTIONS

I/⏻ (power) 1 (7, 11, 15, 18)

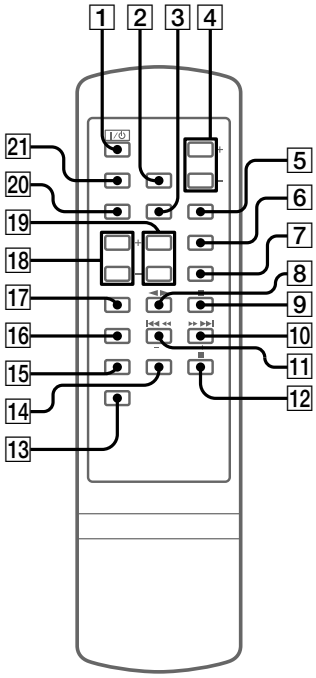
CD

⏮ ◀◀ (go back) 15 (8, 9)
▶▶ ⏭ (go forward) 14 (8, 9)
◀❙▶ (play) 11 (8, 9)
❙❙ (pause) 23 (8)
⏏ PUSH OPEN/CLOSE 7 (8)
■ (stop) 12 (8, 9)

TAPE

▶▶ ⏭ (fast forward) 14 (13)
❙❙ (pause) 23 (13)
◀❙▶ (play) 11 (13, 14, 15)
● (recording) 22 (14, 15)
⏮ ◀◀ (rewind) 15 (13)
⏏ PUSH OPEN/CLOSE 16 (13)
■ (stop) 12 (13, 14)

Remote Control



CD 3 (8, 9, 14)
CLOCK/TIMER 15 (7, 15, 17)
DISPLAY 16 (9, 11)
MEGA BASS 2 (16)
MUSIC MENU 21 (16)
PLAY MODE/RDS (European model only)/DIR 17 (8, 9, 12, 13, 14, 15)
PRESET +/ 18 (10, 11)
REPEAT 7 (8)
SLEEP 13 (17)
TAPE 20 (13)
TIMER ON/OFF 14 (15, 18)
TUNER/BAND 5 (10, 11, 14)
TUNER MEM/ENTER 6 (7, 9, 10, 12, 15, 17, 18)
TUNING/CLOCK/TIMER +/ 19 (7, 10, 11, 12, 15, 17, 18)
VOLUME +/ 4

BUTTON DESCRIPTIONS

▶▶ (fast forward) ▶▶I (go forward) 10 (8, 9, 13)
I◀◀ (go back) ◀◀ (rewind) 11 (8, 9, 13)
II (pause) 12 (8, 13)
◀II▶ (play) 8 (8, 9, 13, 14, 15)
I/⏻ (power) 1 (7, 11, 15, 18)
■ (stop) 9 (8, 9, 13, 14)

Setting the time

1 Turn on the system.

2 Press CLOCK/TIMER on the remote.
When you set the clock for the first time, go to step 5.

3 Press CLOCK/TIMER on the remote repeatedly until ÒSET CLKÓ appears in the display.

4 Press TUNER MEM/ENTER on the remote.

5 Press TUNING/CLOCK/TIMER + or on the remote repeatedly to set the hour.

6 Press TUNER MEM/ENTER on the remote.

7 Press TUNING/CLOCK/TIMER + or on the remote repeatedly to set the minute.

8 Press TUNER MEM/ENTER on the remote.

To reset the system clock

Start over from step 1.

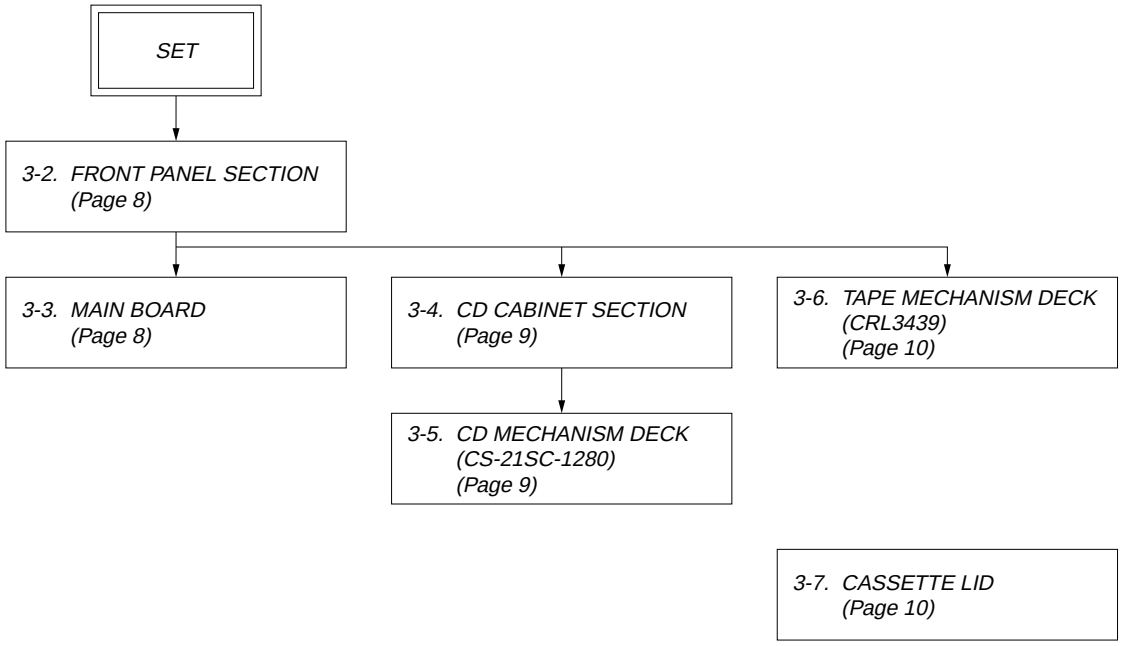
Note

The clock settings are canceled when you disconnect the power cord or if a power failure occurs.

SECTION 3
DISASSEMBLY

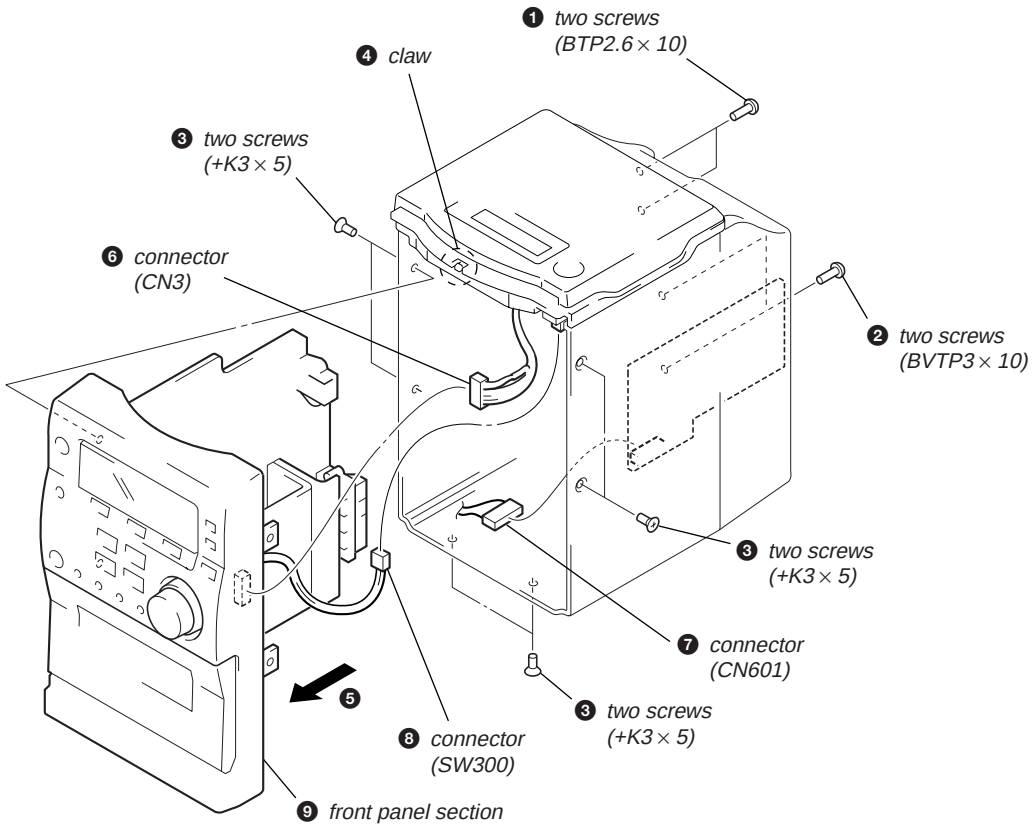
• This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

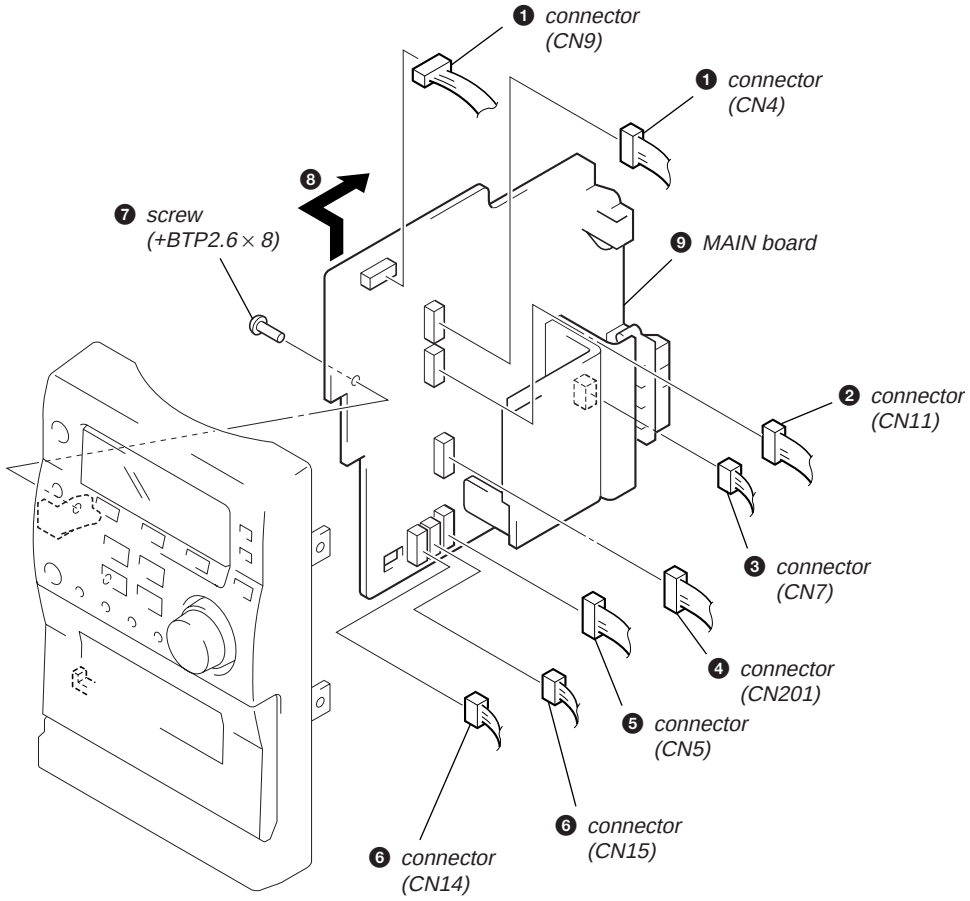

SET
3-2. FRONT PANEL SECTION (Page 8)
3-3. MAIN BOARD (Page 8)
3-4. CD CABINET SECTION (Page 9)
3-5. CD MECHANISM DECK (CS-21SC-1280) (Page 9)
3-6. TAPE MECHANISM DECK (CRL3439) (Page 10)
3-7. CASSETTE LID (Page 10)

Note: Follow the disassembly procedure in the numerical order given.

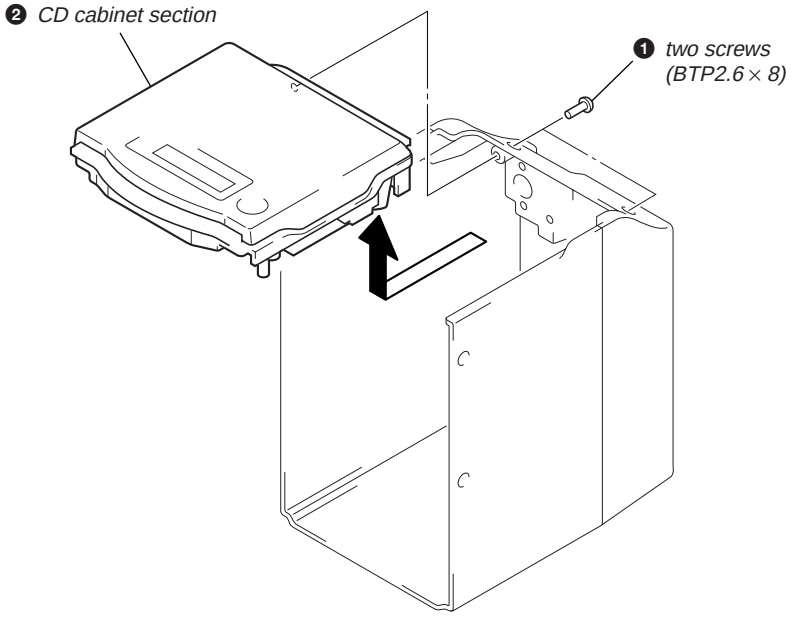
3-2. FRONT PANEL SECTION


❶ two screws (BTP2.6 × 10)
❹ claw
❸ two screws (+K3 × 5)
❻ connector (CN3)
❷ two screws (BVTP3 × 10)
❸ two screws (+K3 × 5)
❼ connector (CN601)
❸ two screws (+K3 × 5)
❺
❽ connector (SW300)
❾ front panel section

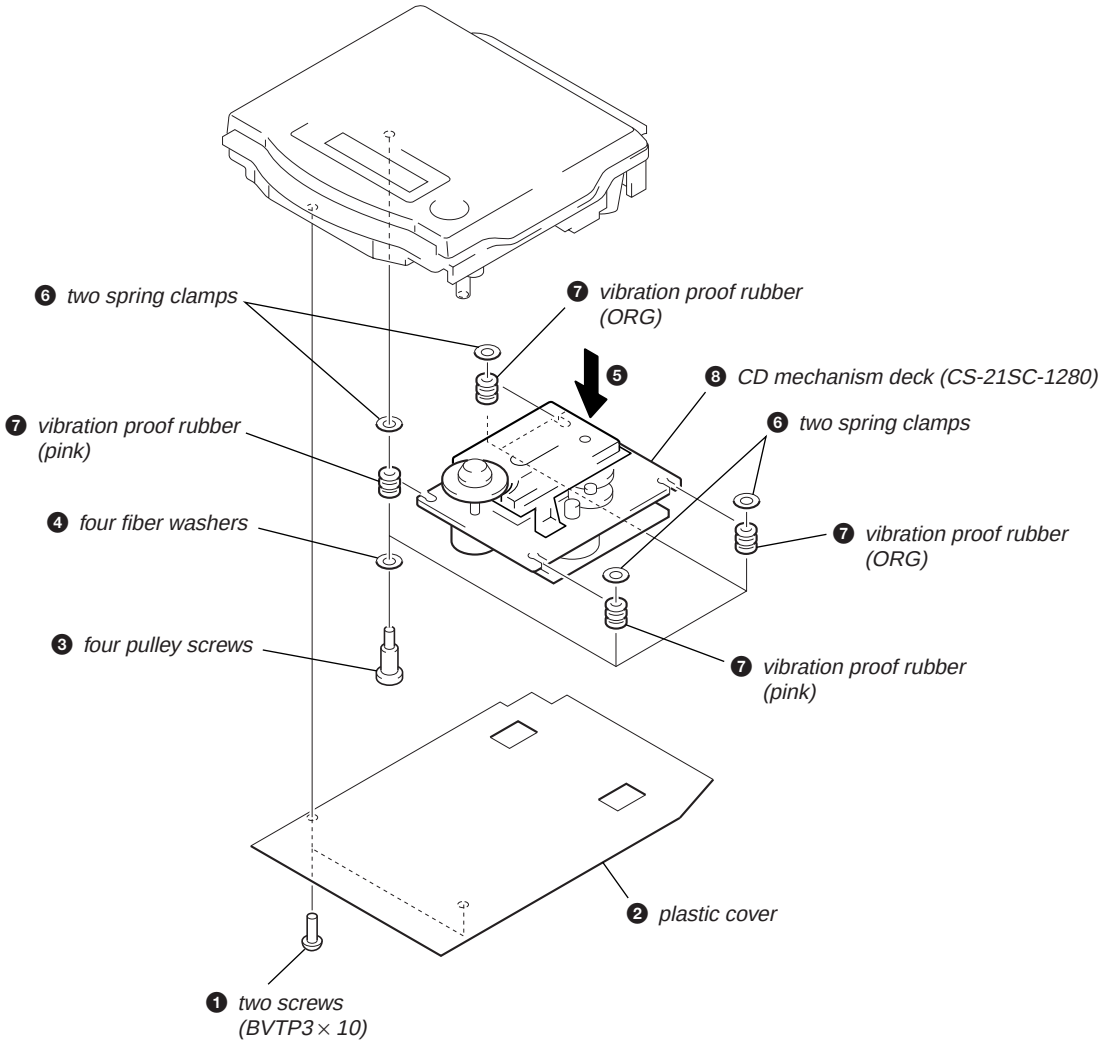
3-3. MAIN BOARD



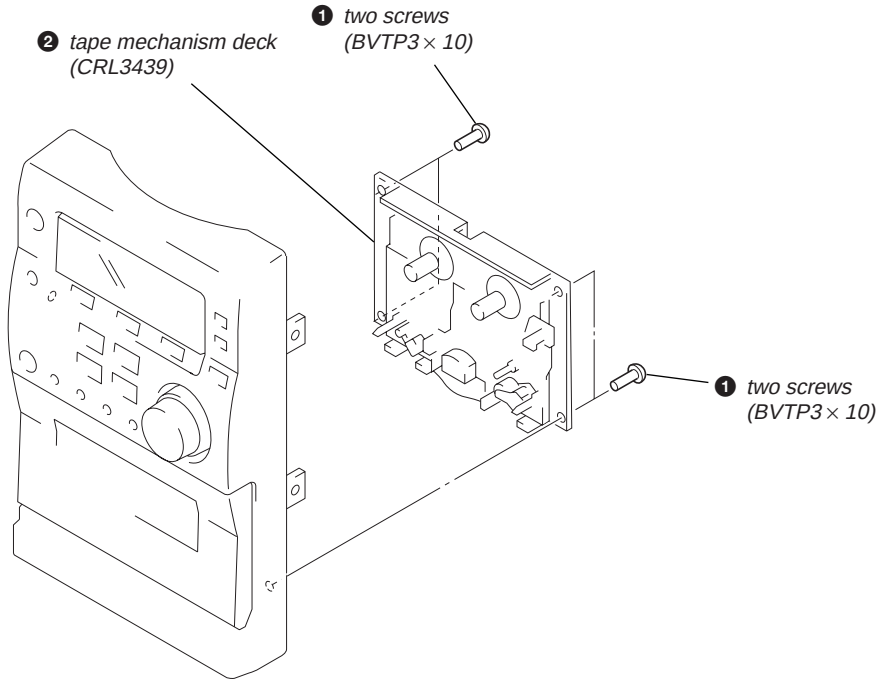
3-4. CD CABINET SECTION



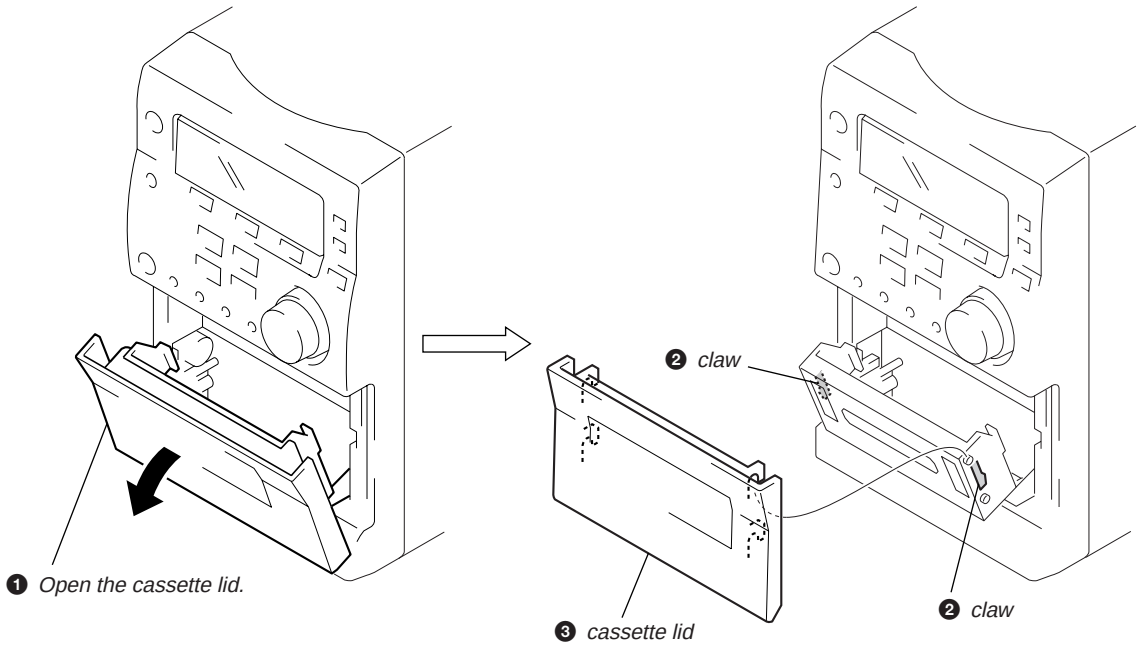
3-5. CD MECHANISM DECK (CS-21SC-1280)



3-6. TAPE MECHANISM DECK (CRL3439)



3-7. CASSETTE LID



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head magnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	2.95 – 6.86 mN•m (30 – 70 g•cm) (0.42 – 0.97 oz•inch)
FWD Back Tension	CQ-102C	0.15 – 5.39 mN•m (1.5 – 5.5 g•cm) (0.021 – 0.076 oz•inch)
FF	CQ-201B	more than 5.89 mN•m (more than 60 g•cm) (more than 0.83 oz•inch)
REW	CQ-201B	more than 5.89 mN•m (more than 60 g•cm) (more than 0.83 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 100 g (more than 3.53 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Setting
   MEGA BASS switch : OFF

TAPE DECK SECTION | 0 dB=0.775 V

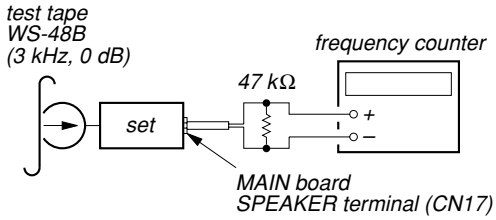
Test tape

Type	Signal	Used for
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-A100	10 kHz, –10 dB	Head Azimuth Adjustment

Tape Speed Adjustment

Setting:

Function: TAPE



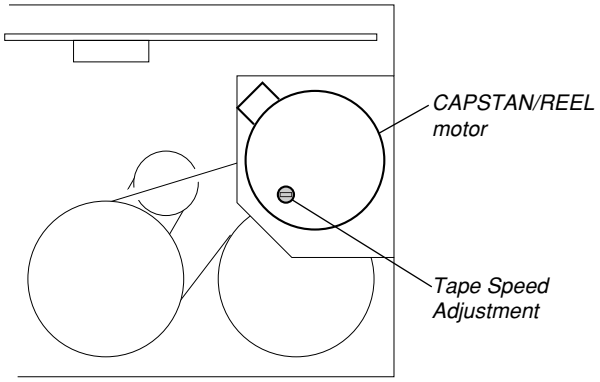
Procedure:

1. Playback WS-48B (tape center) in the FWD state.
2. Adjsut the volume in CAPSTAN/REEL motor so that the frequency counter reading becomes 3,000 Hz.

Specified Value: 2,970 to 3,030 Hz

3. Confirm that the frequency at the beginning and that at the end of tape winding are between 2,955 to 3,045 Hz.

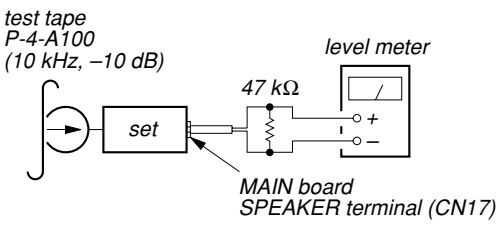
Adjustment Location:



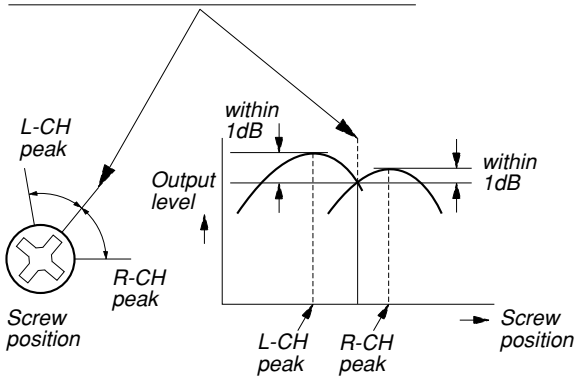
Record/Playback Head Azimuth Adjustment

Procedure:

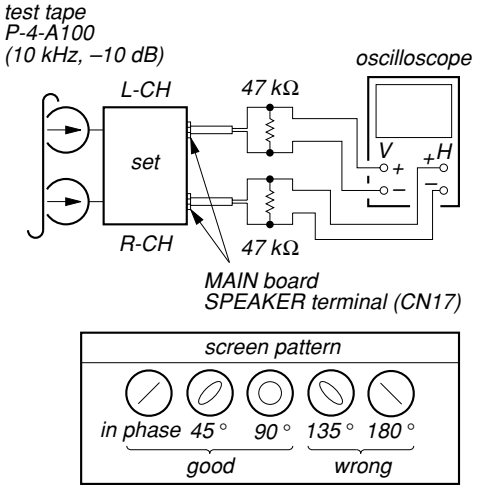
1. Mode: Playback (FWD)



2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.

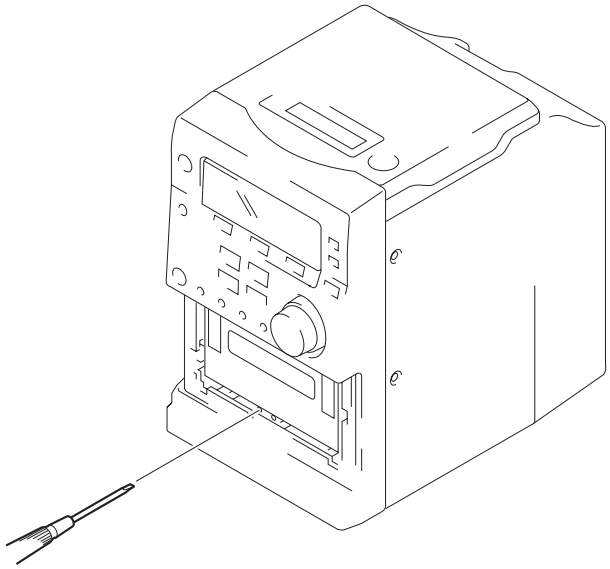


3. Mode: Playback (FWD)



4. Repeat step 1 to 3 in playback (REV) mode.
5. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Record/Playback Head.



Note: Refer to "3-7. CASSETTE LID" (see page 10)

TUNER SECTION

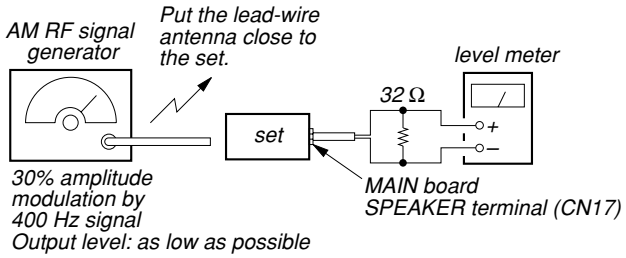
0 dB=1 µV

no mark : EXCEPT AEP, UK, Chinese models
< > : AEP, UK, Chinese models

[AM]

Setting:

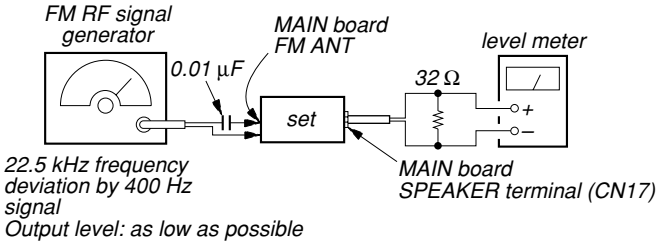
Function : TUNER
Band switch : AM

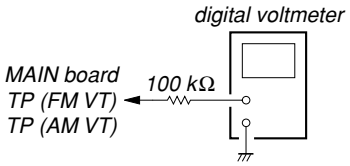


[FM]

Setting:

Function : TUNER
Band switch : FM





- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter	
T1	450 kHz

AM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital Voltmeter
T8	530 kHz <531 kHz>	1.3 ± 0.1 V
Confirmation	1,710 kHz <1,602 kHz>	7.8 ± 0.5 V <7.1 ± 0.5 V>

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
T6	603 kHz
TC1	1,404 kHz

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital Voltmeter
L901 <Confirmation>	87.5 MHz	2.4 ± 0.1 V <1.4 to 1.6 V>
Confirmation	108 MHz	6.8 ± 0.5 V <7.3 to 8.5 V>

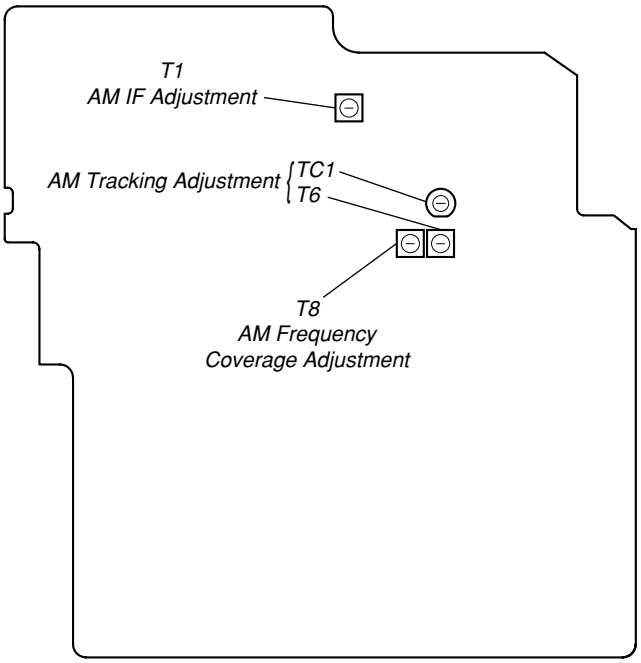
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
L902	90.1 MHz
TC901	106.1 MHz

(EXCEPT AEP, UK, Chinese models)

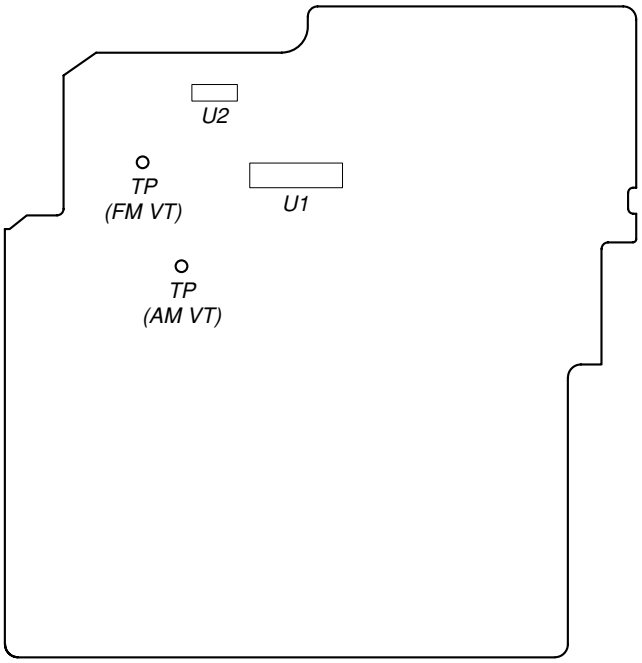
Adjustment Location: MAIN board (See page 14)

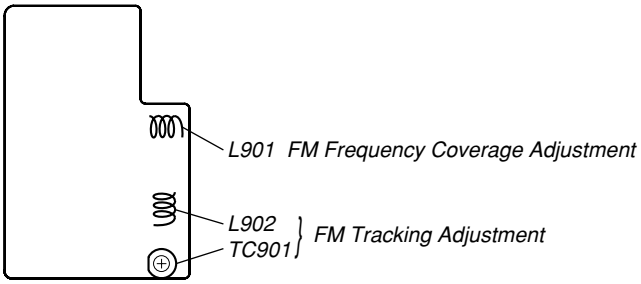
Adjustment Location and Connecting Points

– MAIN BOARD (Component Side) –



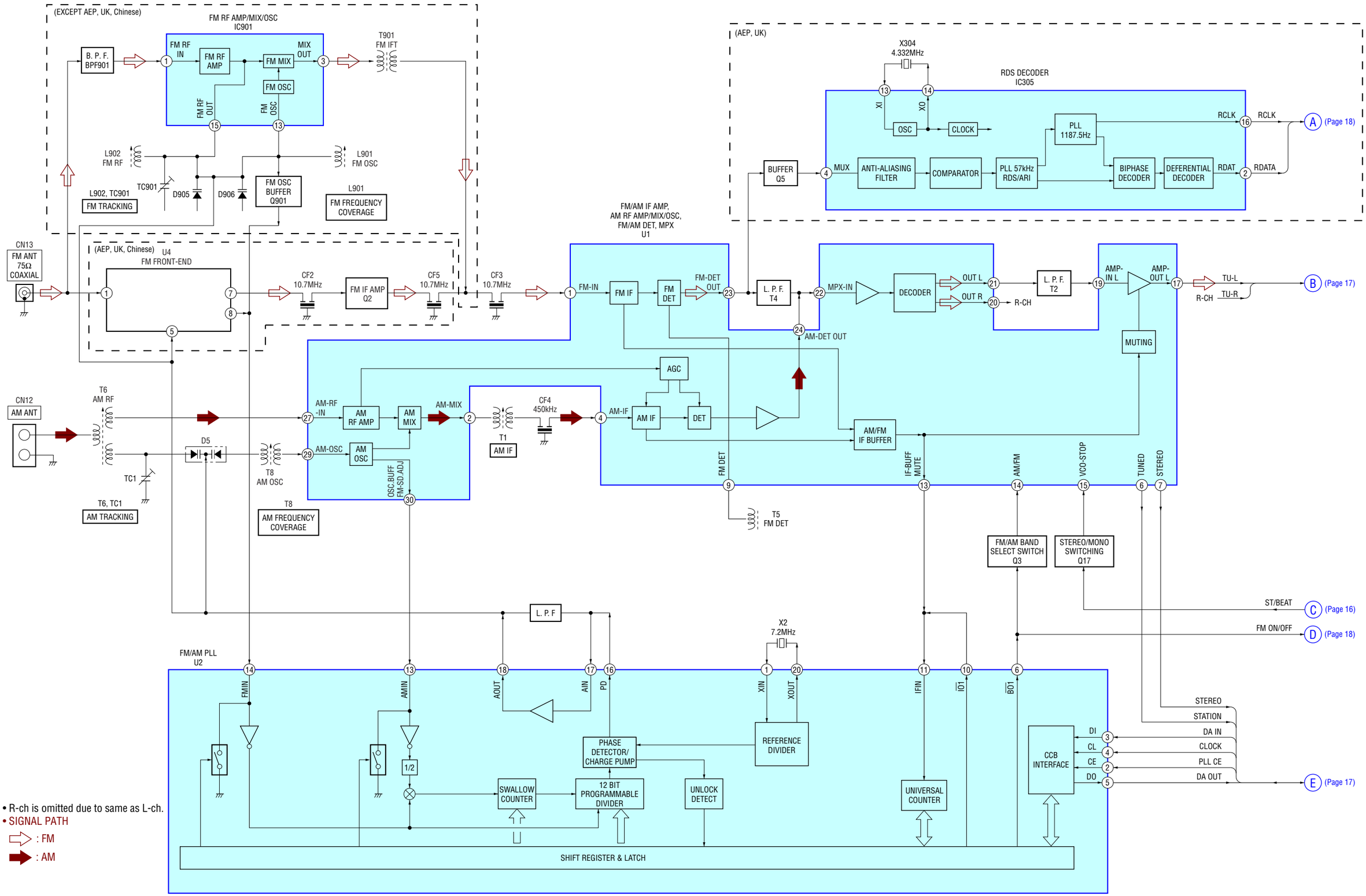
– MAIN BOARD (Conductor Side) –



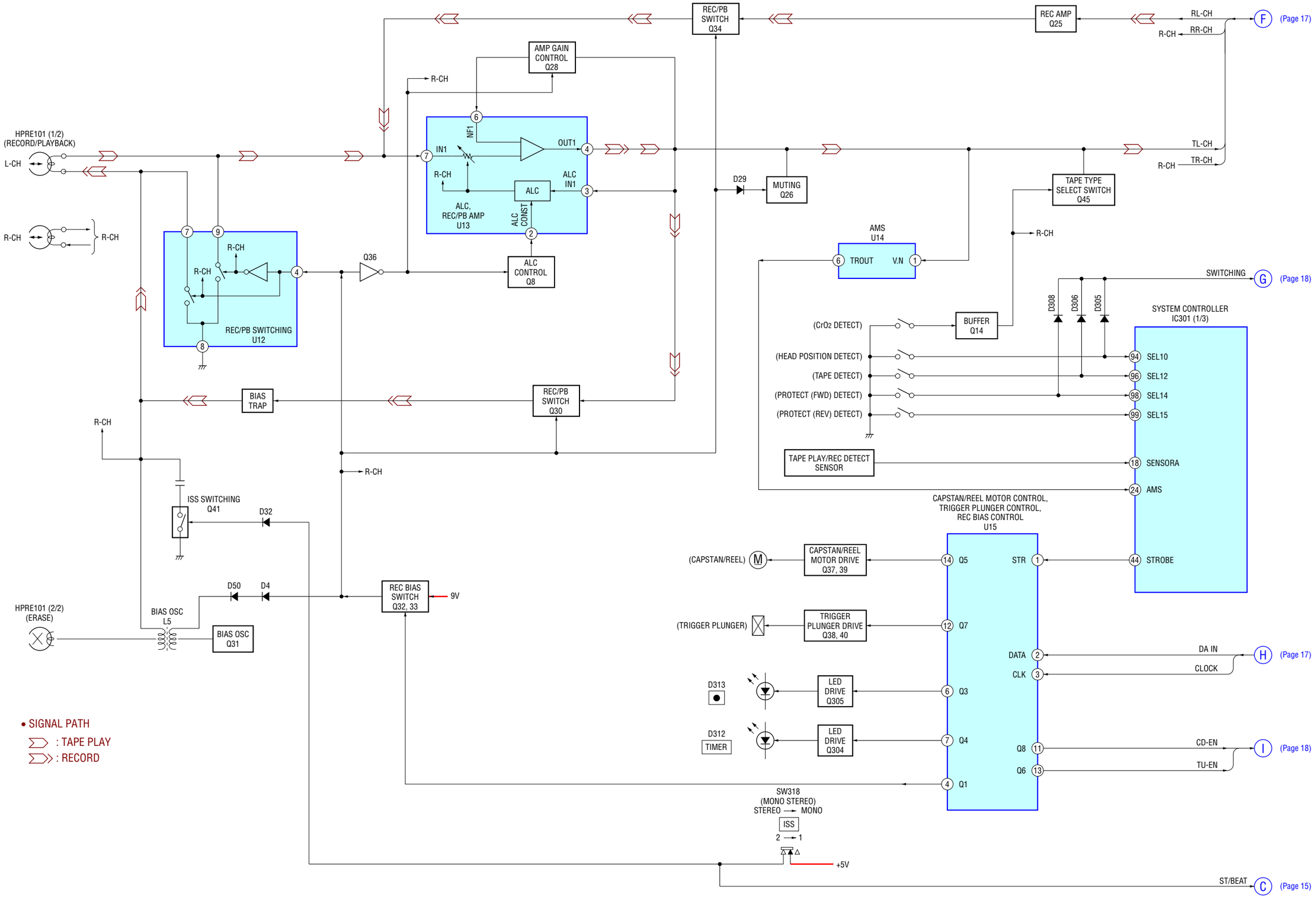


SECTION 6
DIAGRAMS

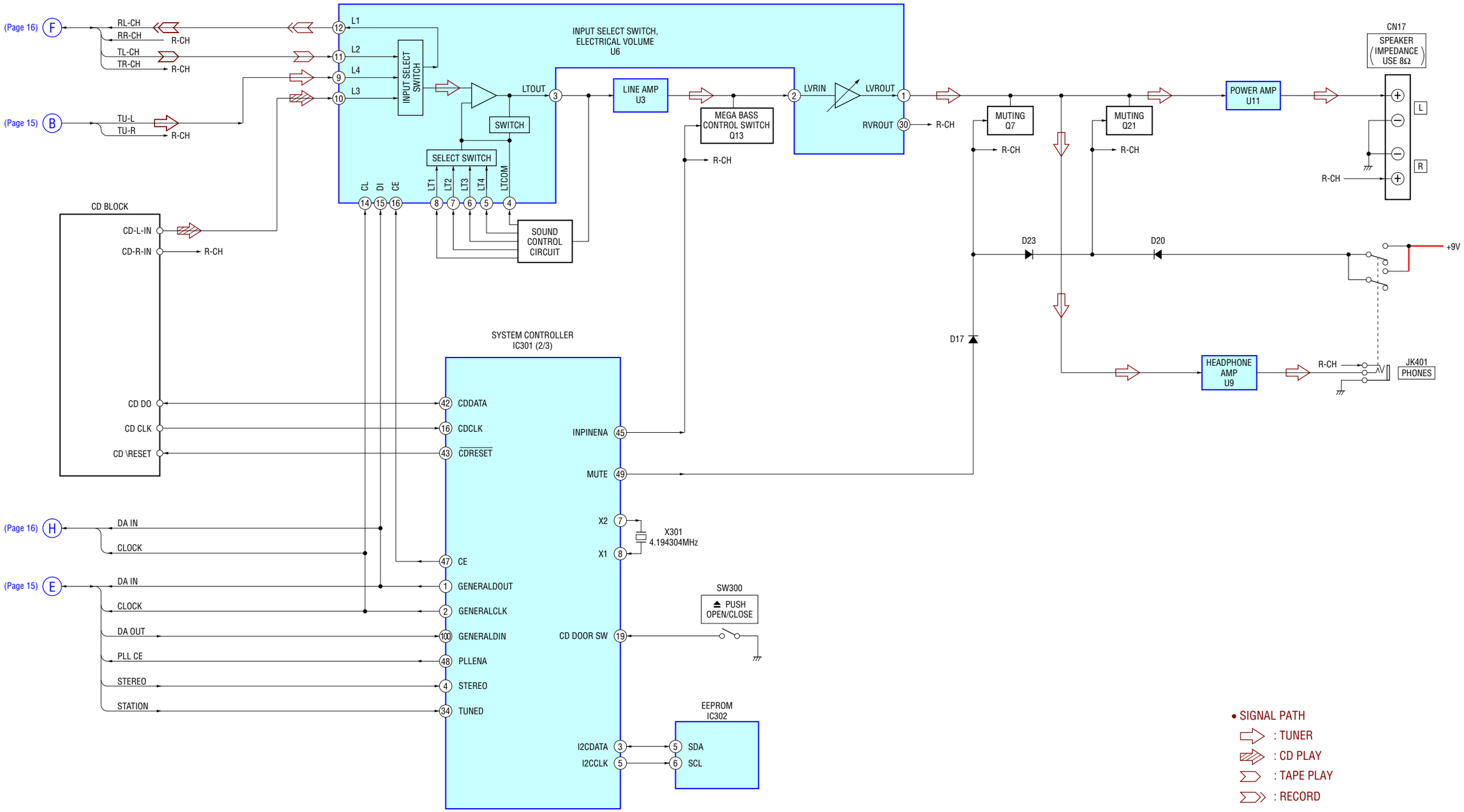
6-1. BLOCK DIAGRAM – TUNER Section –



6-2. BLOCK DIAGRAM – TAPE DECK Section –

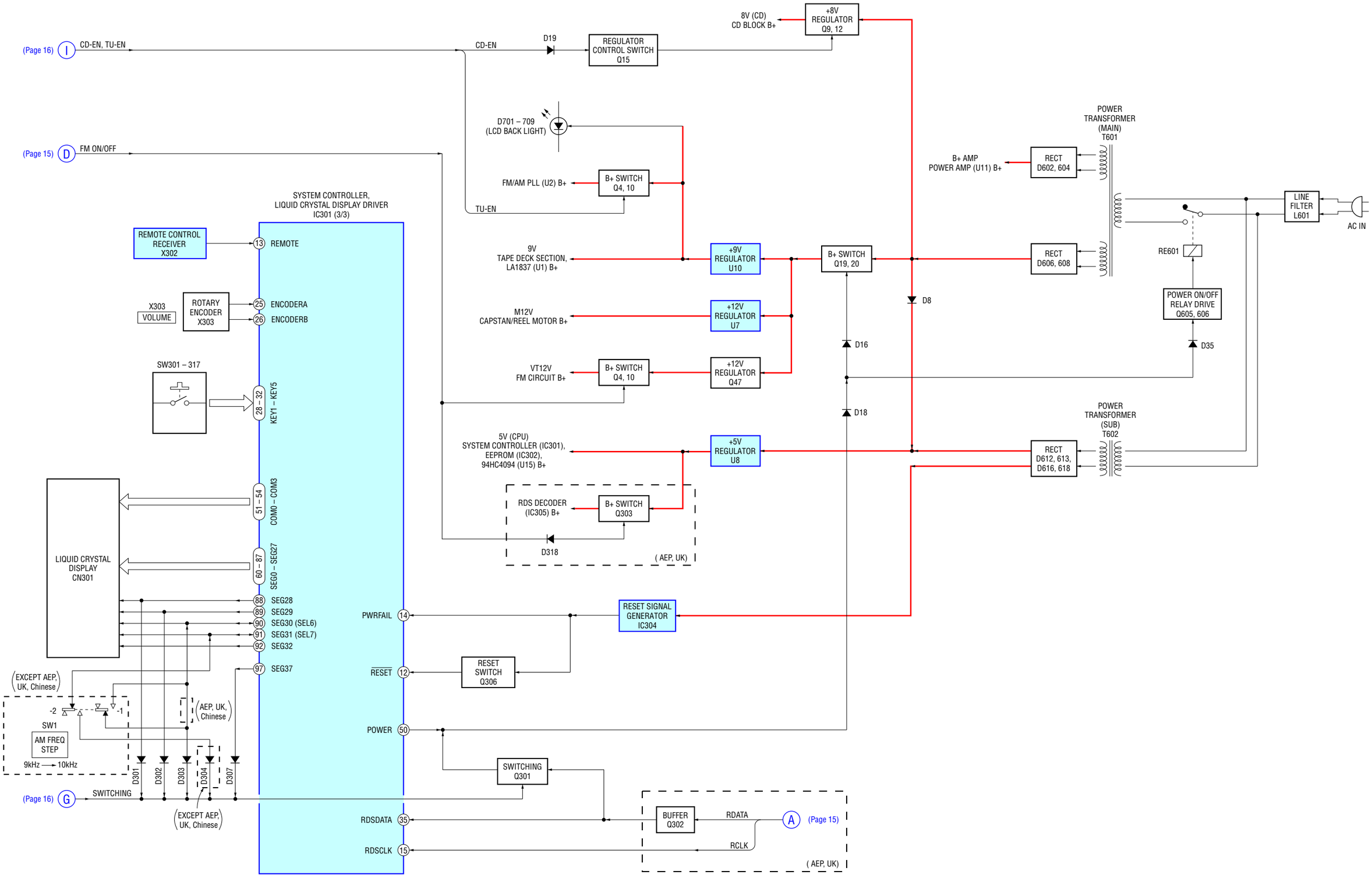


6-3. BLOCK DIAGRAM – MAIN Section –



• SIGNAL PATH
: TUNER
: CD PLAY
: TAPE PLAY
: RECORD

6-4. BLOCK DIAGRAM – DISPLAY/POWER SUPPLY Section –



6-5. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:
- : indicates side identified with part number.
- : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

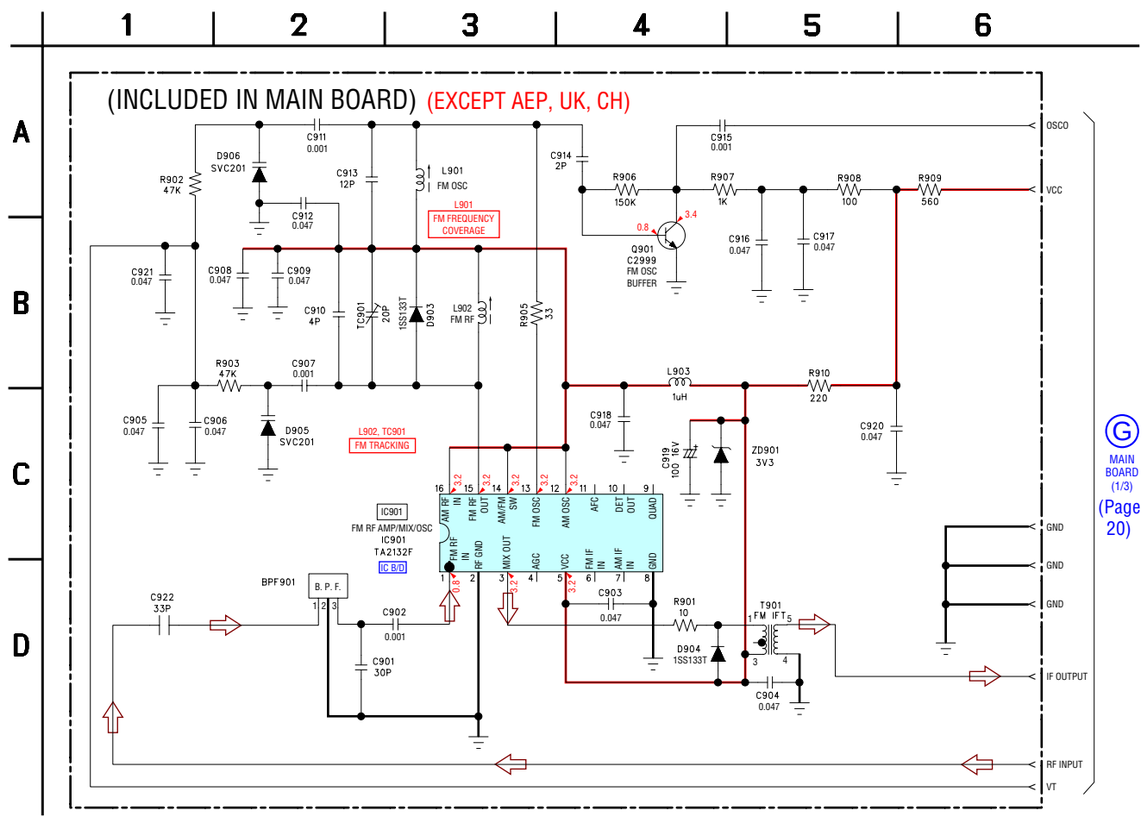
Note on Schematic Diagram:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

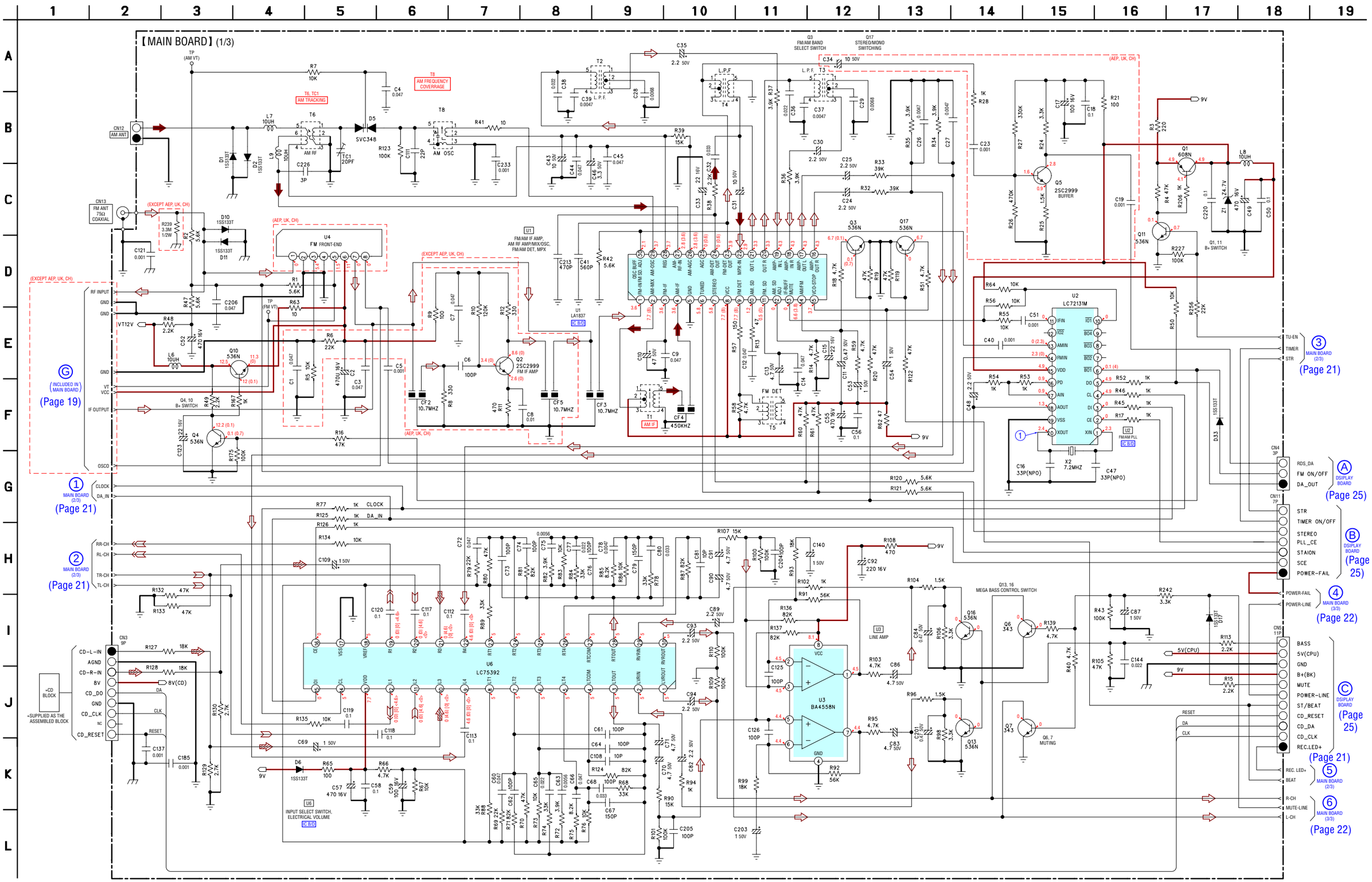
以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

- : B+ Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  - no mark : FM
  - ( ) : AM
  - { } : CD PLAY
  - [ ] : TAPE PLAY
  - < > : RECORD (ISS 1)
  - 〈〈 〉〉 : RECORD (ISS 2)
  - ＊ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : FM
  - : AM
  - : TAPE PLAY
  - : RECORD
  - : CD PLAY
- Abbreviation
  - AR : Argentina model
  - CH : Chinese model
  - CND : Canadian model
  - HK : Hong Kong model
  - MX : Mexican model
  - SP : Singapore model

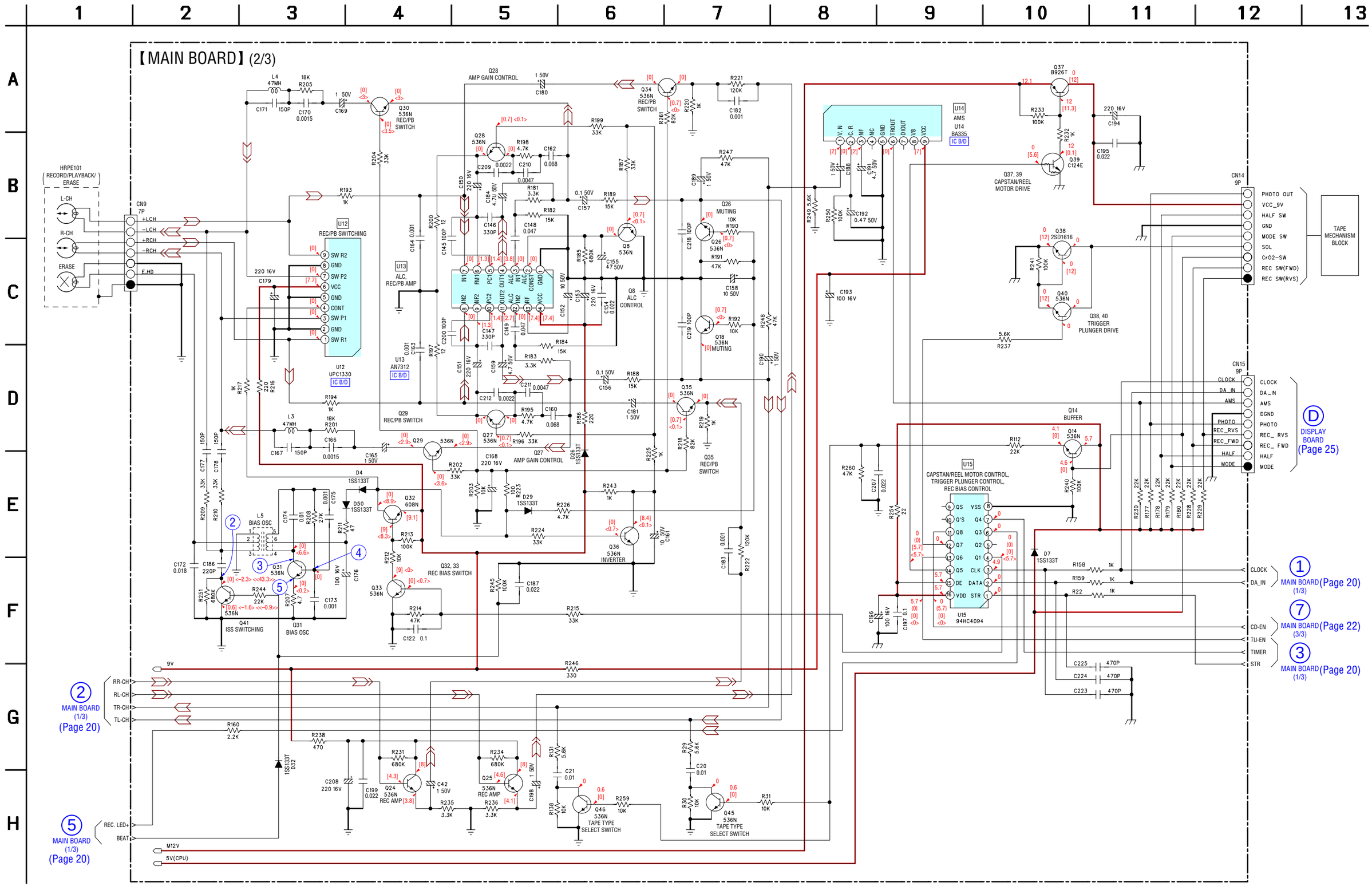
6-6. SCHEMATIC DIAGRAM – FM TUNER Section – • See page 28 for IC Block Diagram.



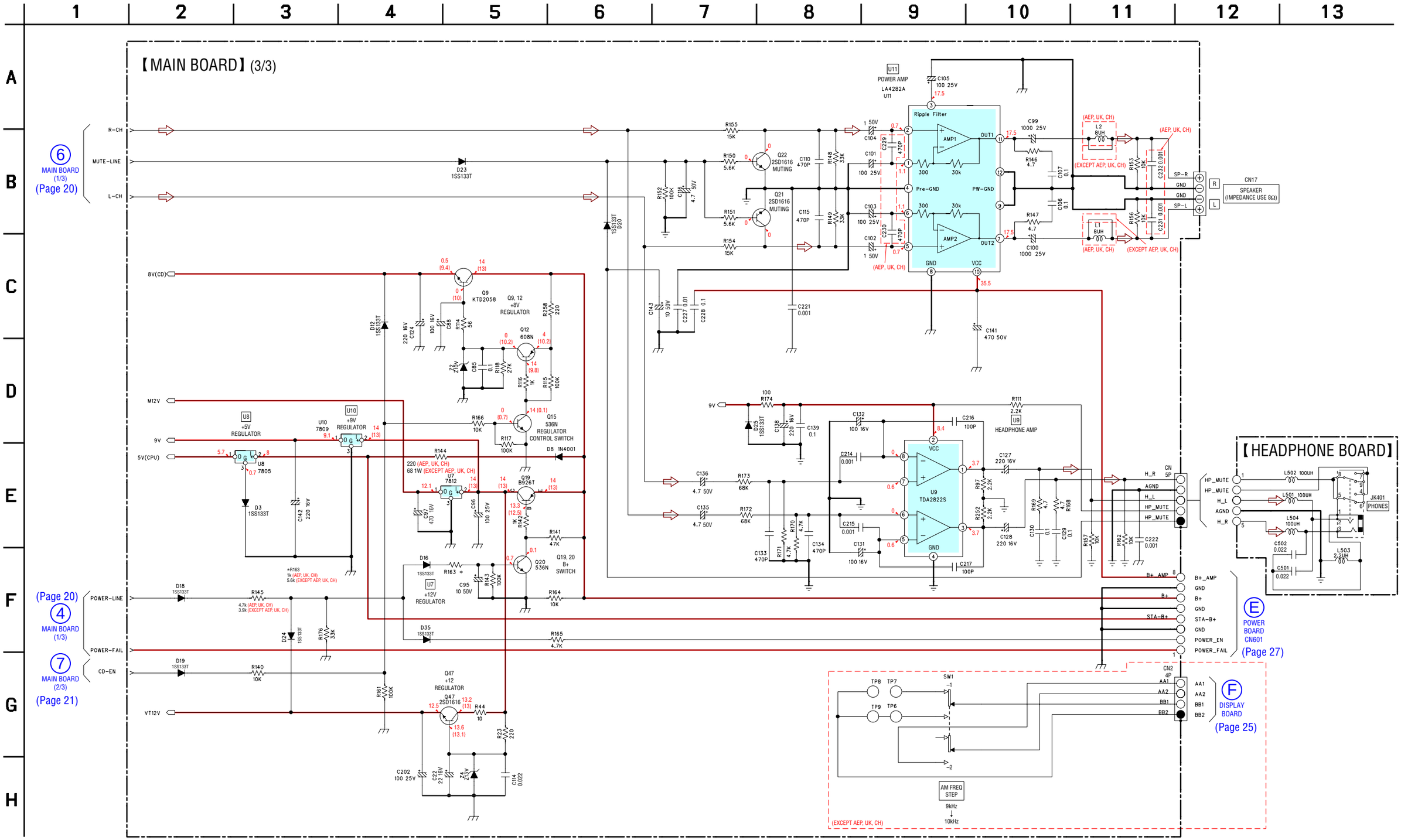
6-7. SCHEMATIC DIAGRAM – MAIN Board (1/3) – • See page 28 for Waveform. • See page 28 for IC Block Diagrams.



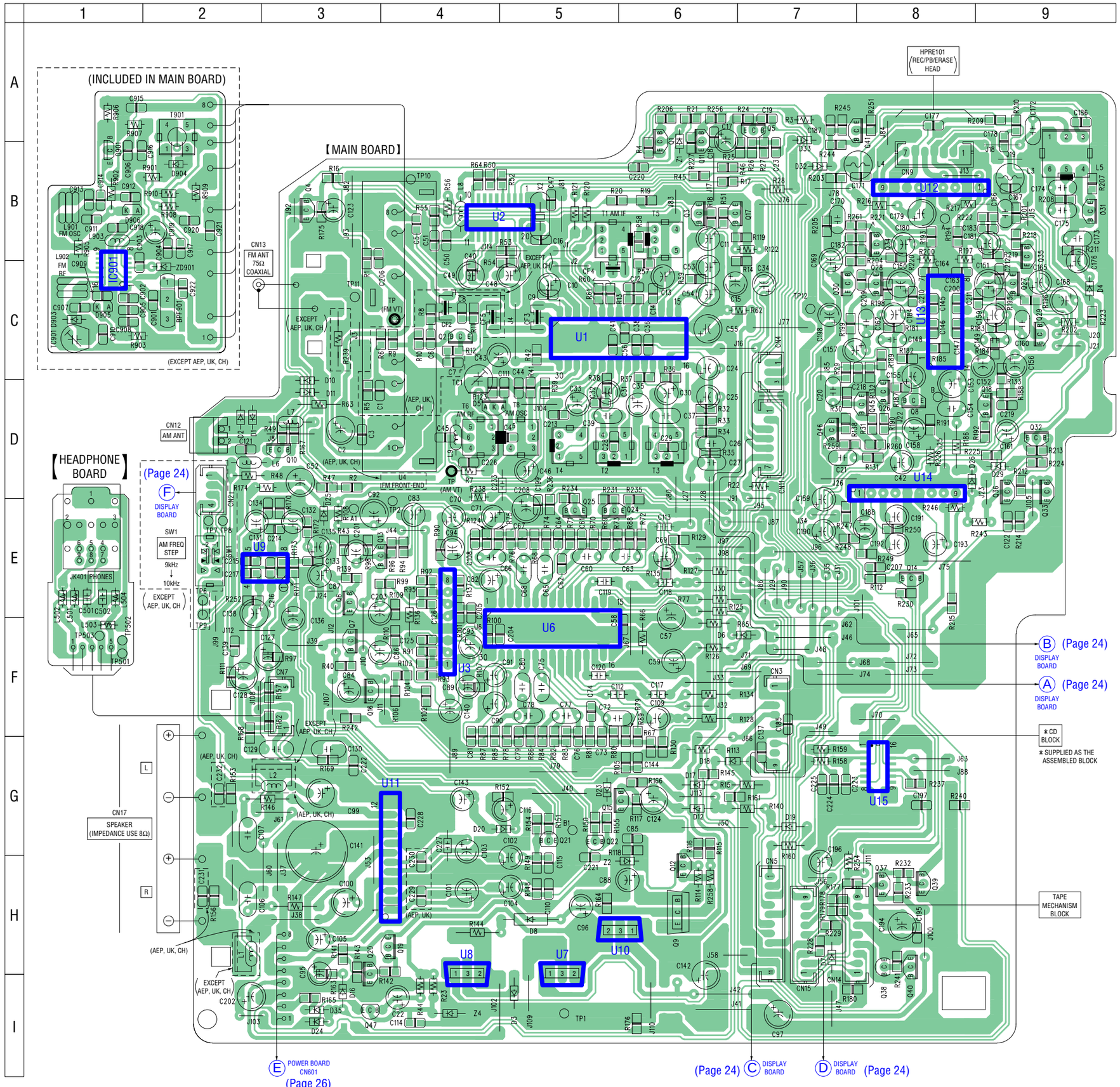
6-8. SCHEMATIC DIAGRAM – MAIN Board (2/3) – • See page 28 for Waveforms. • See page 28 for IC Block Diagrams.



6-9. SCHEMATIC DIAGRAM – MAIN (3/3)/HEADPHONE Boards –



6-10. PRINTED WIRING BOARDS – MAIN/HEADPHONE Boards –



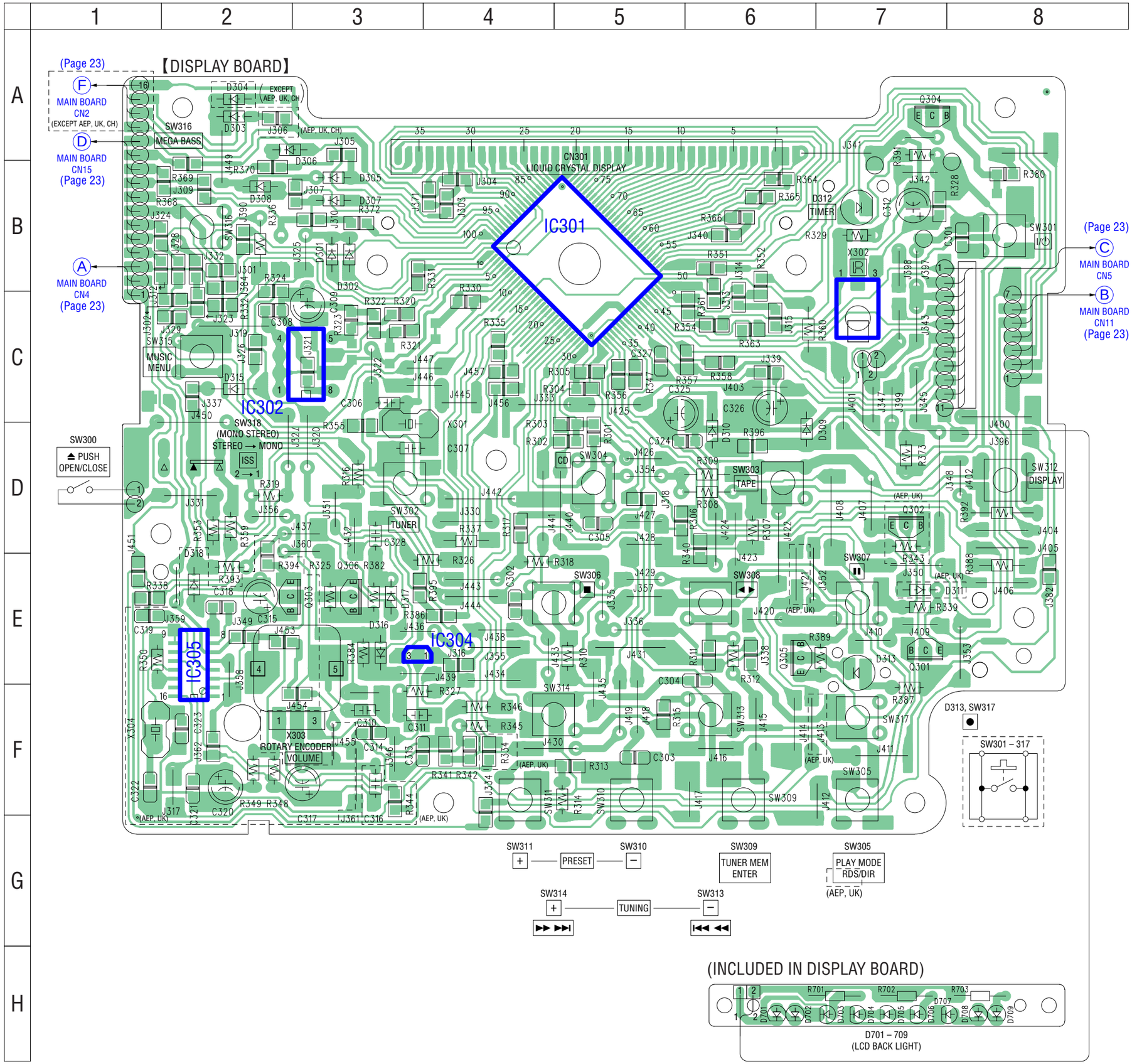
- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D1	D-2	Q19	H-4
D2	D-2	Q20	H-3
D3	I-5	Q21	G-5
D4	C-9	Q22	G-5
D5	D-4	Q24	E-5
D6	F-7	Q25	E-5
D7	H-7	Q26	D-8
D8	H-5	Q27	C-9
D10	D-3	Q28	C-8
D11	D-3	Q29	C-9
D12	G-6	Q30	C-7
D16	I-3	Q31	B-9
D17	G-6	Q32	D-9
D18	G-6	Q33	D-9
D19	G-7	Q34	B-8
D20	G-5	Q35	B-9
D23	G-5	Q36	D-9
D24	I-3	Q37	H-8
D25	E-3	Q38	H-8
D26	D-8	Q39	H-8
D29	D-9	Q40	H-8
D32	B-7	Q41	A-8
D33	A-7	Q45	D-8
D35	I-3	Q46	D-7
		Q47	I-3
IC901	C-1	Q901	B-1
Q1	A-6	U1	C-5
Q2	C-4	U2	B-4
Q3	B-6	U3	F-4
Q4	B-3	U6	F-5
Q5	A-7	U7	H-5
Q6	E-3	U8	H-4
Q7	F-3	U9	E-3
Q8	D-8	U10	H-6
Q9	H-6	U11	G-4
Q10	D-3	U12	B-8
Q11	A-6	U13	C-8
Q12	H-6	U14	D-8
Q13	E-3	U15	G-8
Q14	E-8		
Q15	G-6	Z1	A-6
Q16	F-3	Z2	H-6
Q17	B-6	Z4	I-4
Q18	D-9		

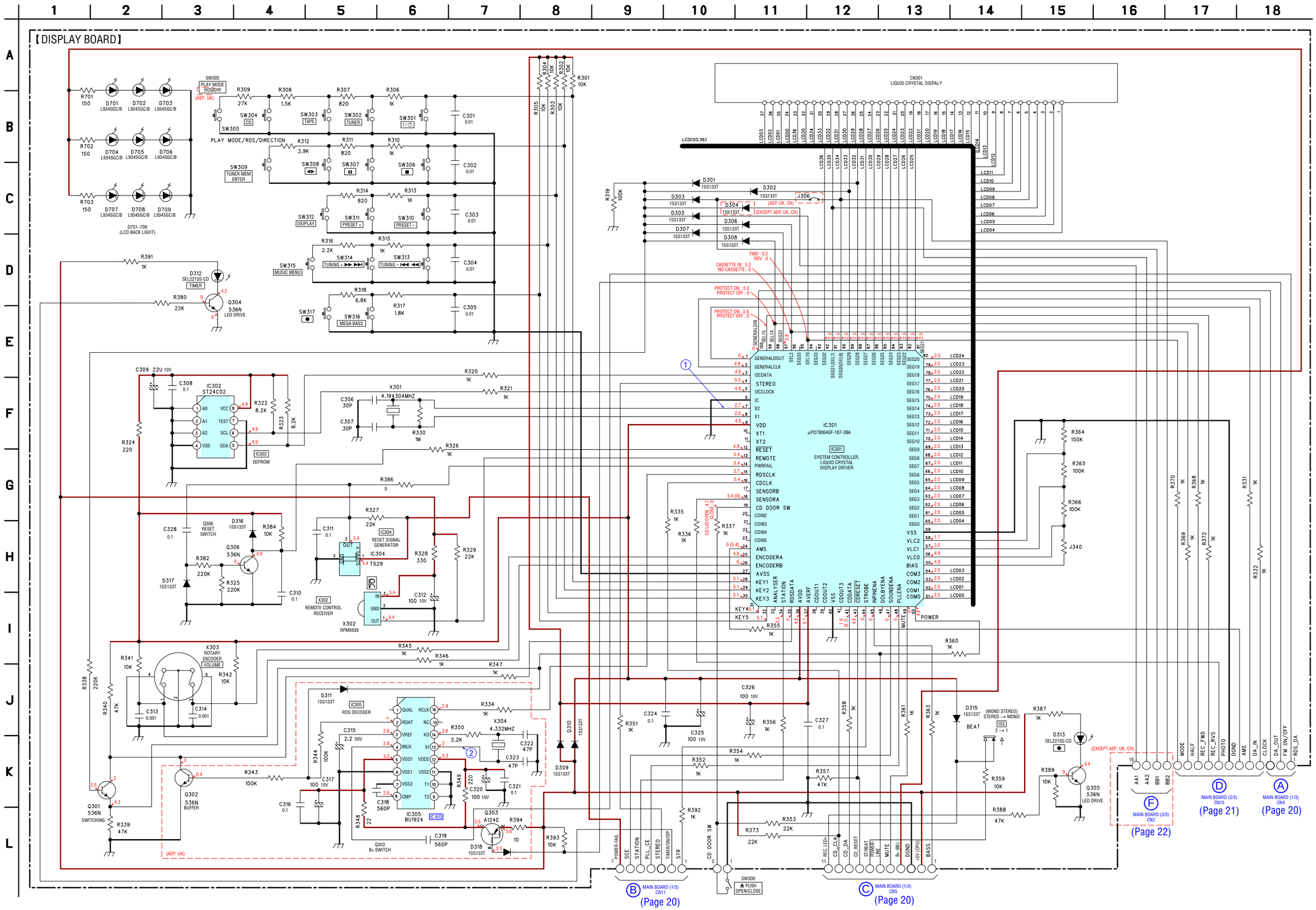
6-11. PRINTED WIRING BOARD – DISPLAY Board –

- **Semiconductor Location**

Ref. No.	Location
D301	B-3
D302	B-3
D303	A-2
D304	A-2
D305	B-3
D306	A-2
D307	B-3
D308	B-2
D309	D-6
D310	D-6
D311	E-7
D312	B-7
D313	E-7
D315	C-2
D316	E-3
D317	E-3
D318	E-2
D701	H-6
D702	H-6
D703	H-7
D704	H-7
D705	H-7
D706	H-7
D707	H-8
D708	H-8
D709	H-8
IC301	B-5
IC302	C-3
IC304	E-3
IC305	E-2
Q301	E-7
Q302	D-7
Q303	E-2
Q304	A-7
Q305	E-6
Q306	E-3
X302	F-3



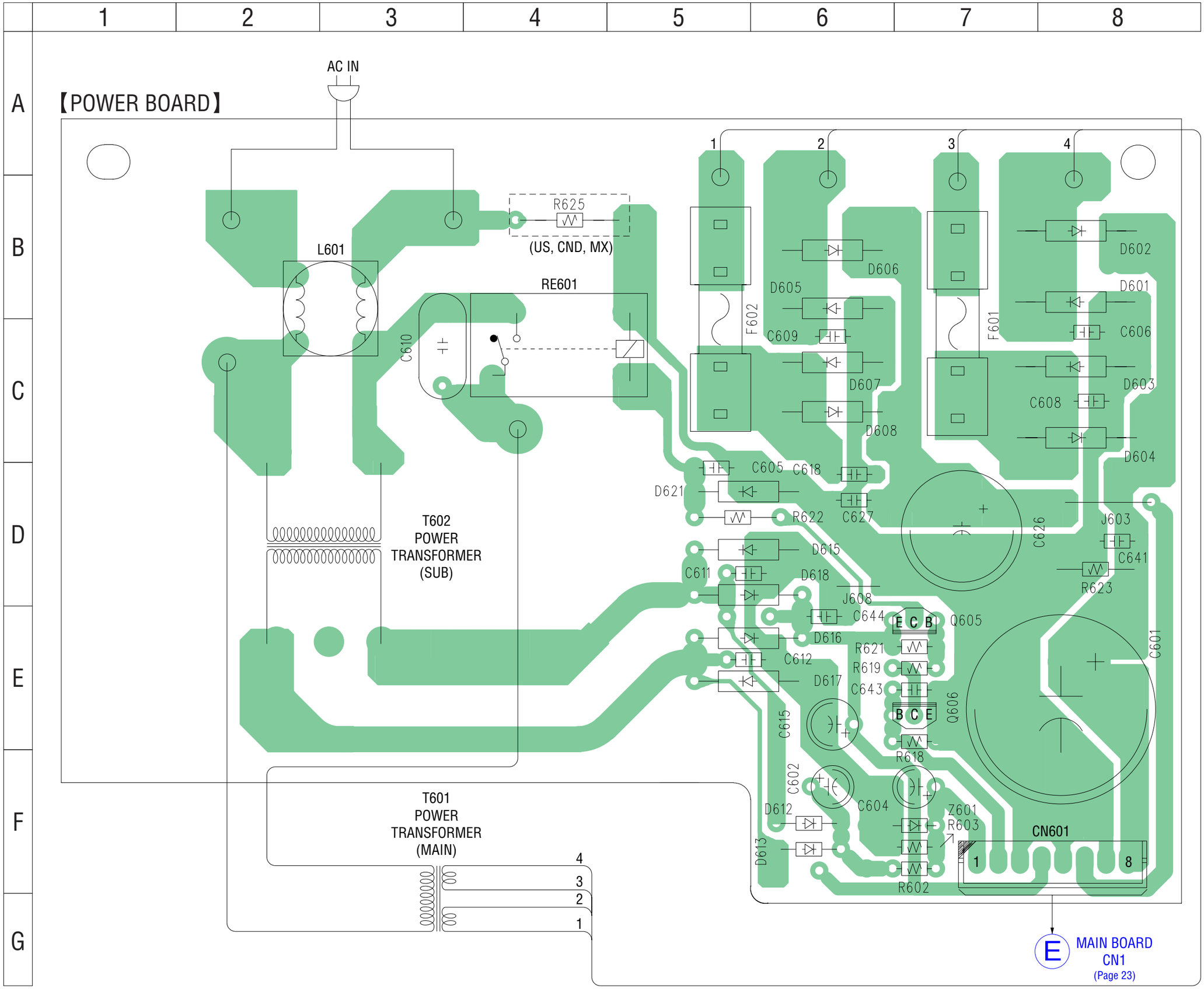
6-12. SCHEMATIC DIAGRAM – DISPLAY Board – • See page 28 for Waveforms. • See page 28 for IC Block Diagram.



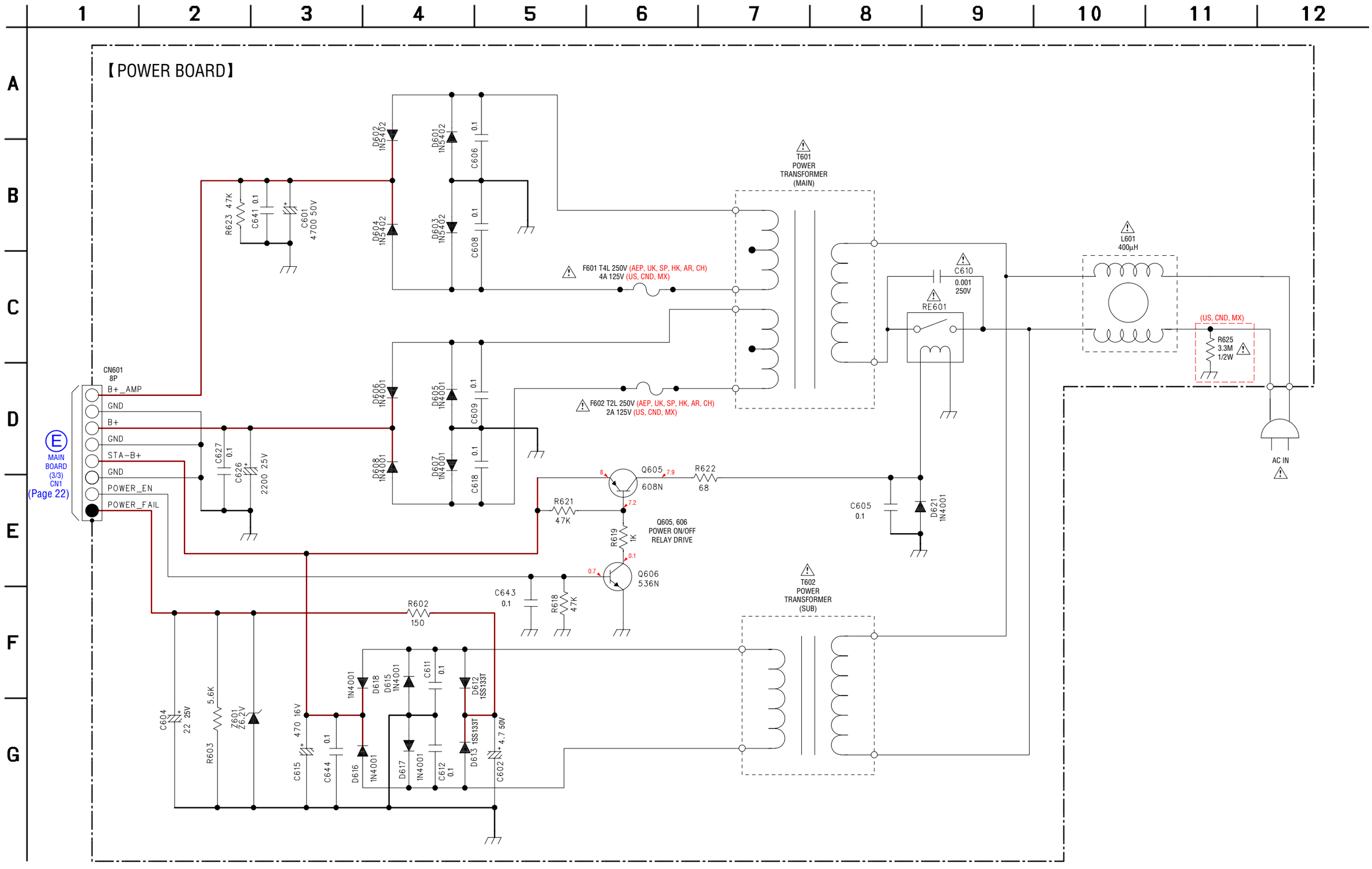
6-13. PRINTED WIRING BOARD – POWER Board –

- **Semiconductor Location**

Ref. No.	Location
D601	B-8
D602	B-8
D603	C-8
D604	C-8
D605	B-6
D606	B-6
D607	C-6
D608	C-6
D612	F-6
D613	F-6
D615	D-5
D616	E-5
D617	E-5
D618	D-5
D621	D-5
Q605	E-7
Q606	E-7
Z601	F-7



6-14. SCHEMATIC DIAGRAM – POWER Board –

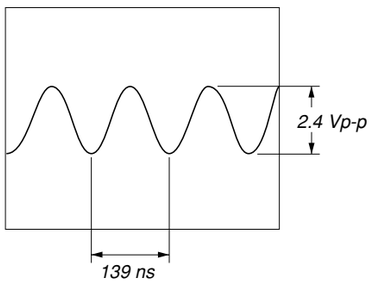


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和⚠标志来识别的零部件在安全方面具有关键性。因此只能以规定号码的零部件来更换。

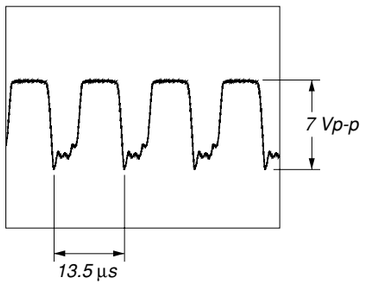
• Waveforms

– MAIN Board –

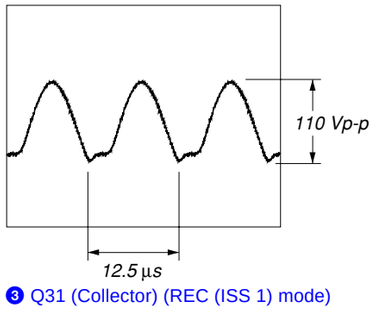
❶ U2 ⑳ (X2)



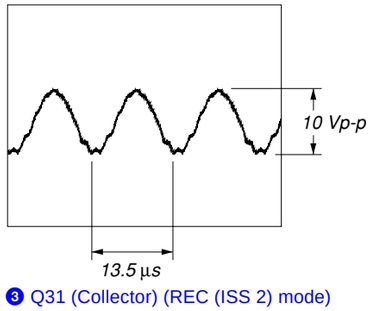
❷ Q41 (Collector) (REC (ISS 1) mode)



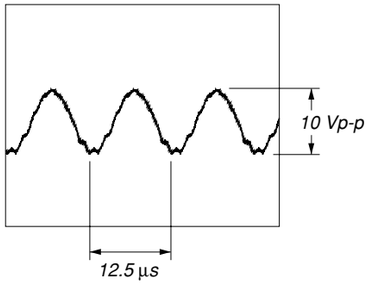
❷ Q41 (Collector) (REC (ISS 2) mode)



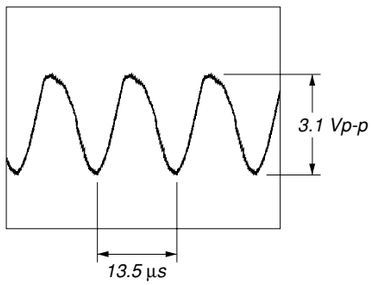
❸ Q31 (Collector) (REC (ISS 1) mode)



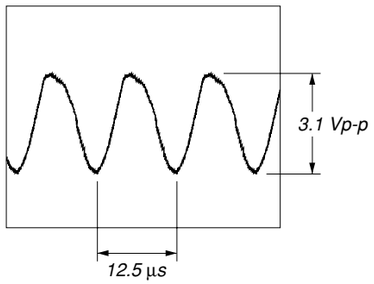
❸ Q31 (Collector) (REC (ISS 2) mode)



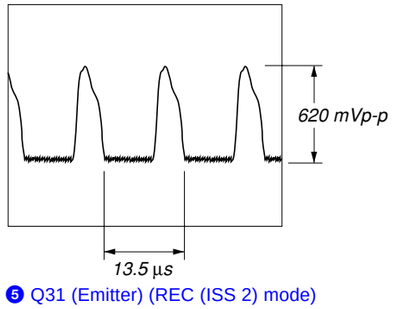
❹ Q31 (Base) (REC (ISS 1) mode)



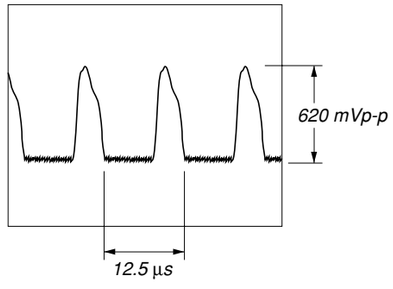
❹ Q31 (Base) (REC (ISS 2) mode)



❺ Q31 (Emitter) (REC (ISS 1) mode)

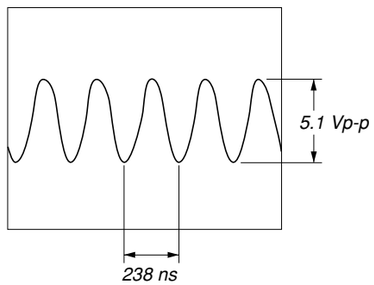


❺ Q31 (Emitter) (REC (ISS 2) mode)

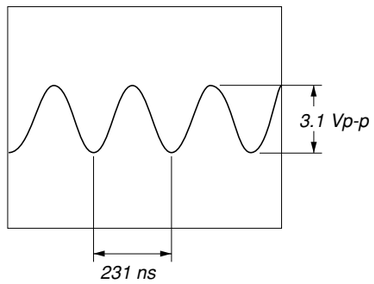


– DISPLAY Board –

❶ IC301 ⑦ (X2)



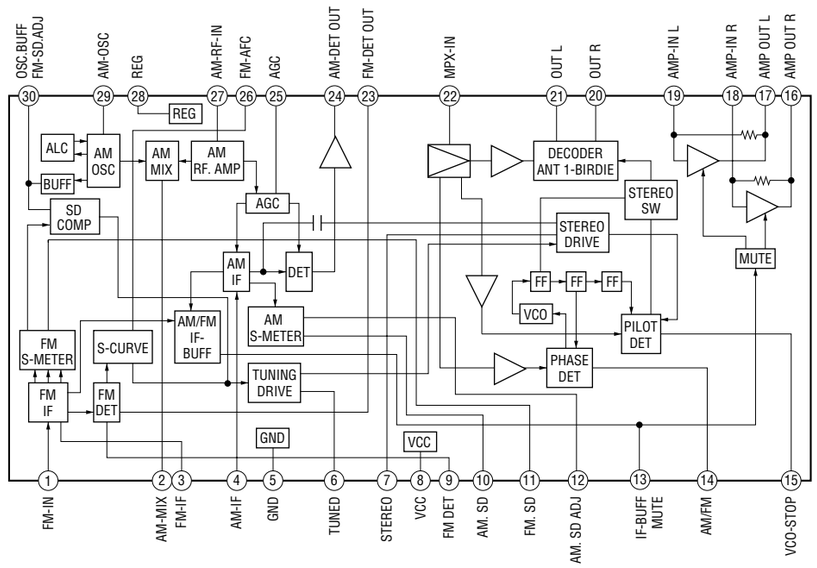
❷ IC305 ⑬ (XI)



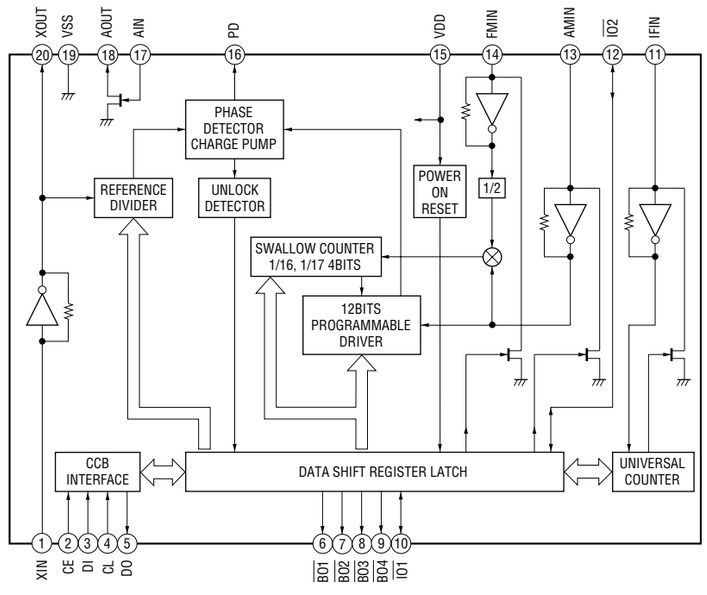
• IC Block Diagrams

– MAIN Board –

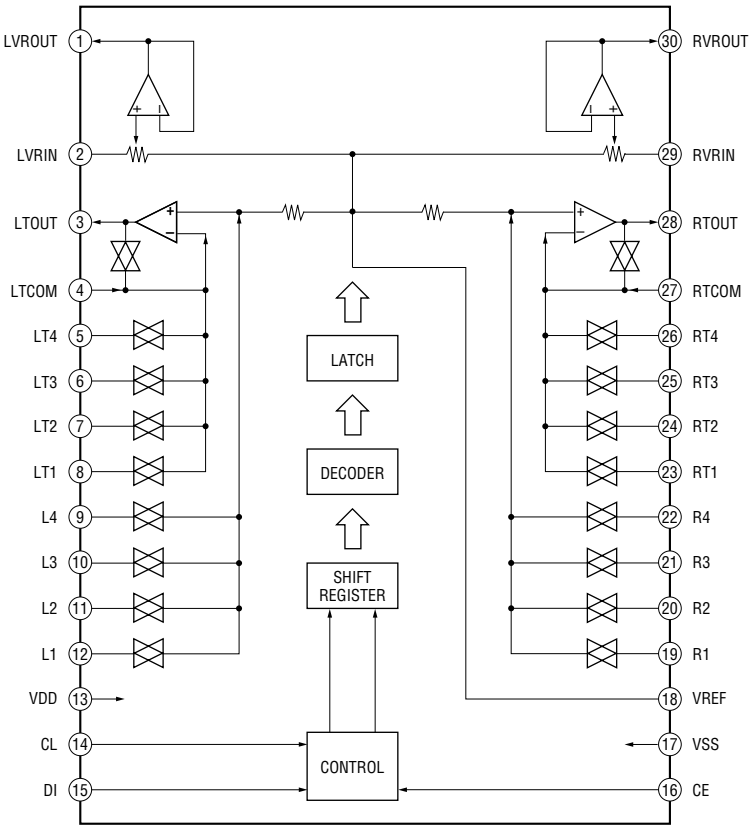
U1 LA1837L



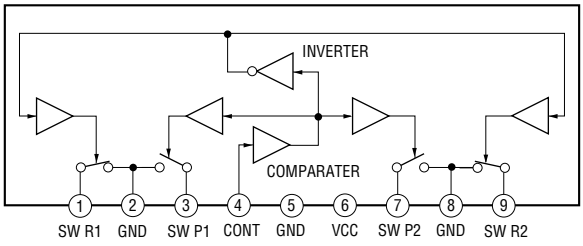
U2 LC72131M-TL-M



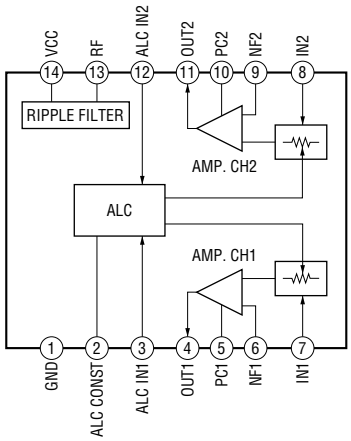
U6 LC75392



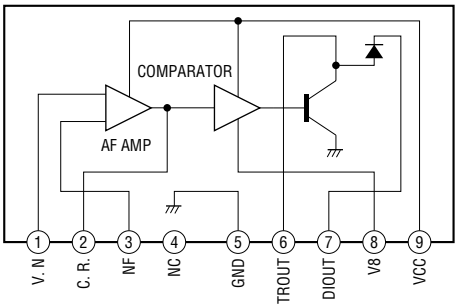
U12 µPC1330HA-NA



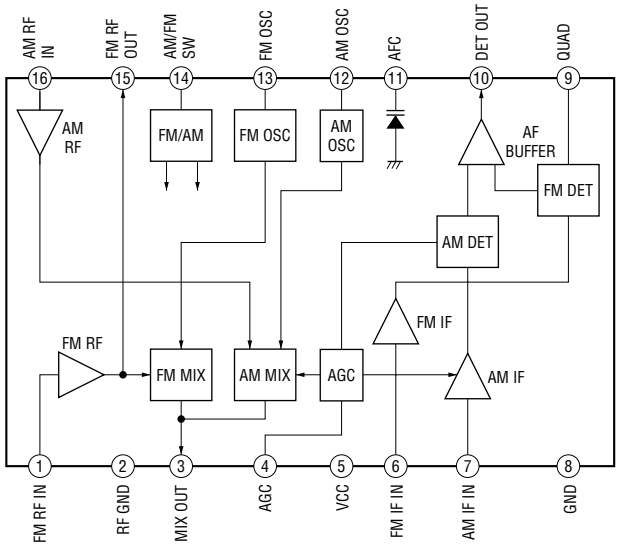
U13 AN7312



U14 BA335

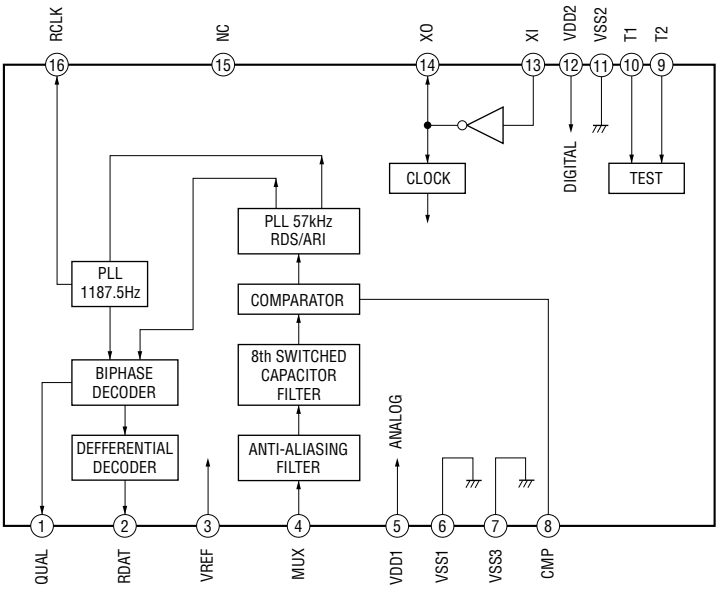


IC901 TA2132AF (EL) (EXCEPT AEP, UK, Chinese models)



– DISPLAY Board –

IC305 BU1924F-E2 (AEP, UK models)



6-15. IC PIN FUNCTION DESCRIPTION

• DISPLAY BOARD IC301 μPD78064GF-187-3BA (SYSTEM CONTROLLER, LIQUID CRYSTAL DISPLAY DRIVER)

Pin No.	Pin Name	I/O	Description
1	GENERALDOUT	O	Serial data output to the FM/AM PLL (U2), LC75392 (U6) and 94HC4094 (U15)
2	GENERALCLK	O	Serial data transfer clock signal output to the FM/AM PLL (U2), LC75392 (U6) and 94HC4094 (U15)
3	I2CDATA	I/O	Two-way data bus with the EEPROM (IC302)
4	STEREO	I	FM stereo detection signal input from the LA1837 (U1) "L": stereo
5	I2CCLK	O	Clock signal output to the EEPROM (IC302)
6	IC	—	Internal connection terminal (connected to ground)
7	X2	O	Main system clock output terminal (4.194304 MHz)
8	X1	I	Main system clock input terminal (4.194304 MHz)
9	VDD	—	Power supply terminal
10	XT1	I	Sub system clock input terminal (32.768 kHz) Not used (open)
11	XT2	O	Sub system clock output terminal (32.768 kHz) Not used (open)
12	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC304) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
13	REMOTE	I	Remote control signal input from the remote control receiver (X302)
14	PWRFAIL	I	Power failure detection signal input terminal "L": power failure, "H": power on
15	RDSCLK	I	Serial data transfer clock signal input from the RDS decoder (IC305) (Used for the AEP, UK models)
16	CDCLK	I	Serial data transfer clock signal input from the CD block
17	SENSORB	I	Tape sensor input terminal Not used (open)
18	SENSORA	I	Tape play/rec detect sensor input terminal "L" input when the tape play/rec detect
19	CD DOOR SW	I	CD lid open/close detect switch (SW300) input terminal "L": CD lid is closed
20 to 23	CDIN2 to CDIN5	I	Not used (open)
24	AMS	I	Whether a music is present or not from BA335 (U14) is detected at auto music sensor "L": music is not present, "H": music is present
25	ENCODERA	I	Jog dial pulse input from the rotary encoder (X303 VOLUME) (A phase input)
26	ENCODERB	I	Jog dial pulse input from the rotary encoder (X303 VOLUME) (B phase input)
27	AVSS	—	Ground terminal
28	KEY1	I	Key input terminal (A/D input) SW301 to SW305 (I/⏻, TUNER, TAPE, CD, PLAY MODE RDS/DIR) keys input (RDS: used for the AEP, UK models)
29	KEY2	I	Key input terminal (A/D input) SW306 to SW309 (■, ❚❚, ◀▶, TUNER MEM ENTER) keys input
30	KEY3	I	Key input terminal (A/D input) SW310 to SW312 (PRESET +/–, DISPLAY) keys input
31	KEY4	I	Key input terminal (A/D input) SW313 to SW315 (TUNING – ⏮ ◀◀, TUNING + ▶▶ ⏭, MUSIC MENU) keys input
32	KEY5	I	Key input terminal (A/D input) SW316, SW317 (MEGA BASS, ●) keys input
33	ANALYZER	I	Analyzer level detection signal input terminal (A/D input) Not used (open)
34	TUNED	I	Tuning detection signal input from the LA1837 (U1) (A/D input) "L": tuned
35	RDSDATA	I	Serial data input from the RDS decoder (IC305) (Used for the AEP, UK models)
36	AVDD	—	Power supply terminal
37	AVREF	I	Reference voltage input terminal
38, 39	CDOUT1, CDOUT2	O	Not used (open)
40	VSS	—	Ground terminal
41	CDOUT3	O	Not used (open)
42	CDDATA	I/O	Two-way data bus with the CD block
43	$\overline{\text{CDRESET}}$	O	Reset signal output to the CD block "L": reset

Pin No.	Pin Name	I/O	Description
44	STROBE	O	Strobe signal output to the 94HC4094 (U15) "H" active
45	INPINENA	O	Mega bass on/off selection signal output "H": mega bass on
46	DOLBYENA	O	Dolby NR on/off selection signal output terminal "L": dolby off, "H": dolby on Not used (open)
47	CE	O	Chip enable signal output to the LC75392 (U6) "H" active
48	PLLENA	O	PLL chip enable signal output to the FM/AM PLL (U2) "H" active
49	MUTE	O	Audio line muting on/off control signal output "H": muting on
50	POWER	O	System power on/off control signal output "H": power on
51 to 54	COM0 to COM3	O	Common drive signal output to the liquid crystal display (CN301)
55	BIAS	O	Bias output for the liquid crystal display drive
56 to 58	VLC0 to VLC2	I	Input terminal for doubler circuit capacitor connection to develop liquid crystal display drive voltage
59	VSS	—	Ground terminal
60 to 89	SEG0 to SEG29	O	Segment drive signal output to the liquid crystal display (CN301)
90	SEG30 (SEL6)	I/O	Segment drive signal output to the liquid crystal display (CN301) AM frequency select switch (SW1) input terminal (AM frequency select switch: used for the except AEP, UK, Chinese models)
91	SEG31 (SEL7)	I/O	Segment drive signal output to the liquid crystal display (CN301) AM frequency select switch (SW1) input terminal (AM frequency select switch: used for the except AEP, UK, Chinese models)
92	SEG32	O	Segment drive signal output to the liquid crystal display (CN301)
93	SEG33	O	Segment drive signal output to the liquid crystal display Not used (open)
94	SEL10	I	Head position detect switch input terminal "L": reverse direction, "H": forward direction
95	SEG35	O	Segment drive signal output to the liquid crystal display Not used (open)
96	SEL12	I	Cassette tape detect switch input terminal "L": no cassette, "H": cassette in
97	SEG37	O	Segment drive signal output to the liquid crystal display Not used
98	SEL14	I	Rec-proof claw (forward direction) detection signal input from the protect detect switch "L": recording possible, "H": protect
99	SEL15	I	Rec-proof claw (reverse direction) detection signal input from the protect detect switch "L": recording possible, "H": protect
100	GENERALDIN	I	Serial data input from the FM/AM PLL (U2)

SECTION 7
EXPLODED VIEWS

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories are given in the last of the electrical parts list.

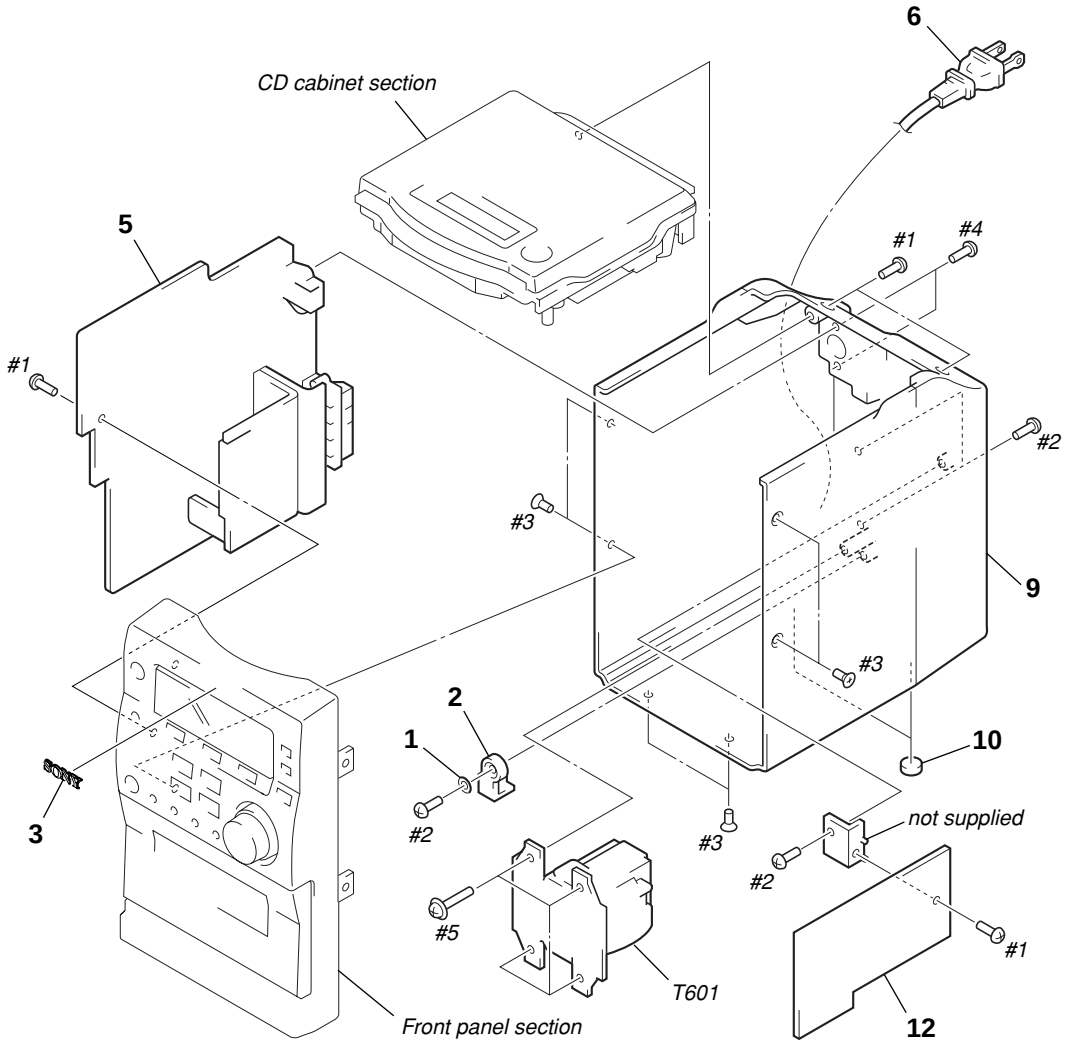
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

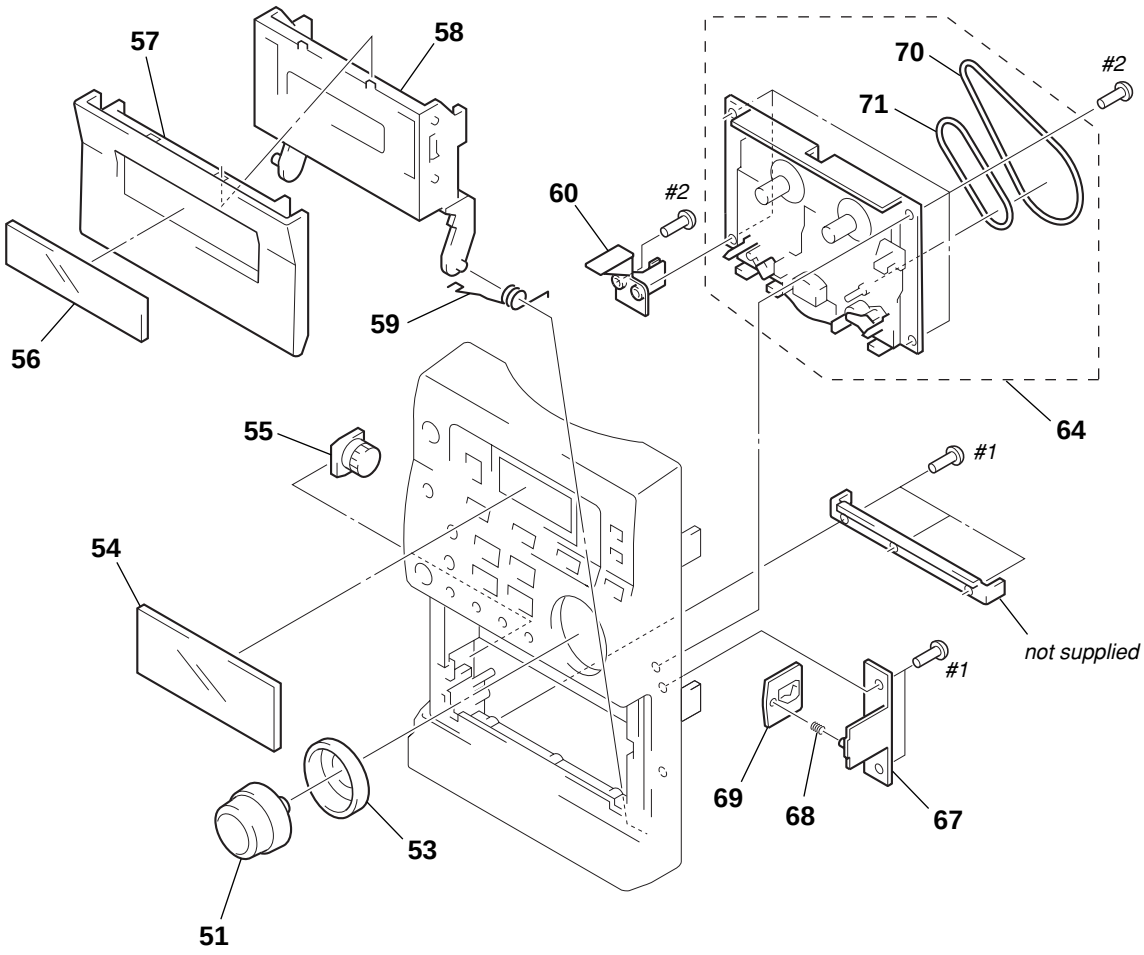
- Abbreviation
  AR : Argentina model
  CH : Chinese model
  CND : Canadian model
  HK : Hong Kong model
  MX : Mexican model
  SP : Singapore model

7-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-451-162-00	WASHER	
2	4-235-952-01	AC CORD HOLDER	
3	4-236-194-01	EMBLEM BADGE	
5	A-4727-039-A	MAIN BOARD, COMPLETE (AEP, CH, UK)	
5	A-4727-281-A	MAIN BOARD, COMPLETE (AR, CND, HK, MX, SP, US)	
⚠6	1-555-750-00	CORD, POWER (AEP, HK, SP, UK)	
⚠6	1-782-464-21	CORD, POWER (CH)	
⚠6	1-783-525-31	CORD, POWER (TRACKING) (MX)	
⚠6	1-783-820-11	CORD, POWER (CND, US)	
⚠6	1-783-941-51	CORD, POWER (AR)	
9	4-236-914-01	REAR CABINET (AEP, CH, UK)	
9	4-237-126-01	REAR CABINET (CND, US)	
9	4-237-128-01	REAR CABINET (AR, HK, MX, SP)	
10	4-235-995-01	RUBBER FOOT	
12	A-4727-041-A	POWER BOARD, COMPLETE (AEP, AR, CH, HK, SP, UK)	
12	A-4727-282-A	POWER BOARD, COMPLETE (CND, MX, US)	
⚠T601	1-437-513-11	TRANSFORMER, POWER (AEP, AR, CH, HK, SP, UK)	
⚠T601	1-437-514-11	TRANSFORMER, POWER (CND, MX, US)	

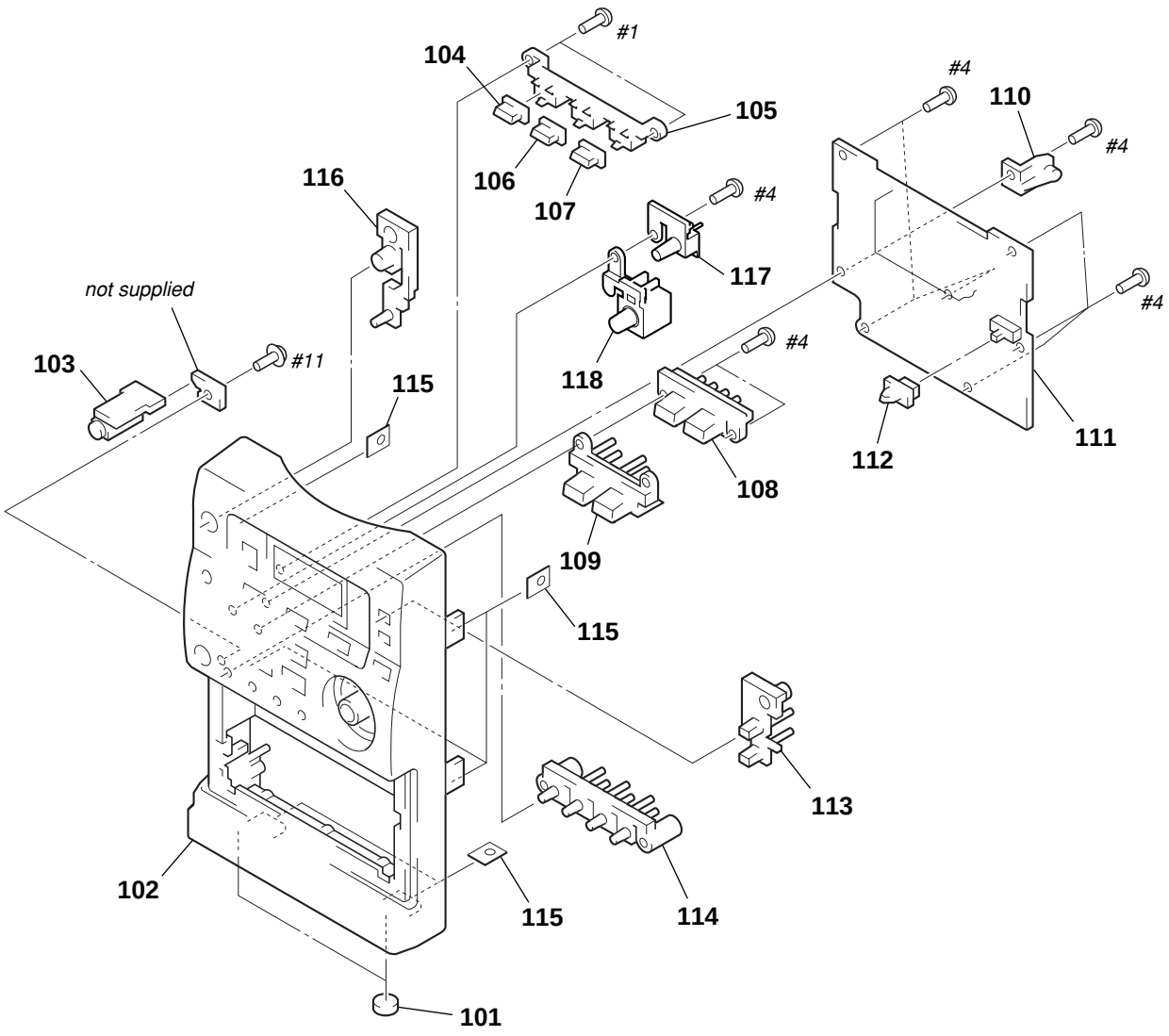
7-2. FRONT PANEL SECTION-1



Ref. No.	Part No.	Description	Remark
51	4-237-055-01	VOLUME ROTARY KNOB	
53	4-236-900-01	VOL. DECORATION RING	
54	4-236-917-01	DISPLAY WINDOW	
55	4-236-899-01	DAMPER	
56	4-236-067-01	CASS LID WINDOW	
57	4-236-903-01	CASS LID	
58	4-236-901-01	CASS LID BKT	
59	4-236-904-01	CASS LID SPRING	
60	4-236-915-01	MAIN PWB MOUNTING BKT (A) (AEP, AR, CH, HK, MX, SP, UK)	

Ref. No.	Part No.	Description	Remark
60	4-237-121-01	MAIN PWB MOUNTING BKT (A) (CND, US)	
64	1-796-228-11	DECK, MECH (TCM) (CRL3439)	
67	4-236-907-01	CASS LID LATCH HOLDER	
68	4-236-905-01	CASS LATCH SPRING	
69	4-236-906-01	CASS LID LATCH	
70	3-709-645-01	BELT SR	
71	4-235-777-01	BELT (FR)	

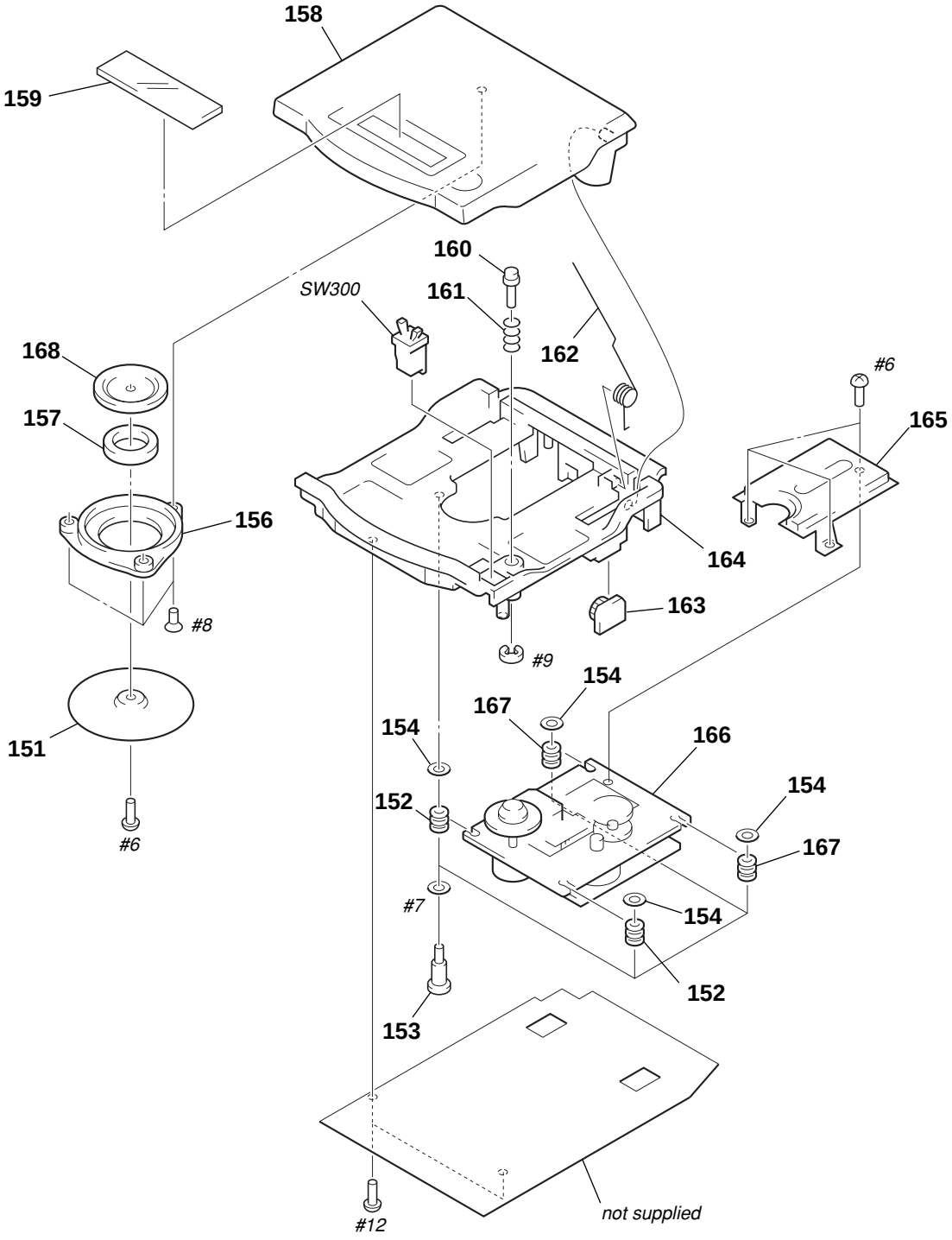
7-3. FRONT PANEL SECTION-2



Ref. No.	Part No.	Description	Remark
101	4-235-995-01	RUBBER FOOT	
102	4-236-902-01	FRONT PANEL (RDS) (AEP, UK)	
102	4-237-123-01	FRONT PANEL (CND, US)	
102	4-237-127-01	FRONT PANEL (AR, CH, HK, MX, SP)	
103	A-4727-040-A	HEADPHONE BOARD, COMPLETE	
104	4-235-968-01	TAPE KEY CAP	
105	4-235-946-01	FUNCTION KEY BKT	
106	4-235-966-01	CD KEY CAP	
107	4-235-967-01	TUNER KEY CAP	
108	4-236-908-01	PLAY/STOP KNOB	
109	4-235-962-01	SKIP/SEARCH KNOB	
110	4-236-916-01	MAIN PWB MOUNTING BKT (B) (AEP, AR, CH, HK, MX, SP UK)	

Ref. No.	Part No.	Description	Remark
110	4-237-122-01	MAIN PWB MOUNTING BKT (B) (CND, US)	
111	A-4727-038-A	DISPLAY BOARD, COMPLETE (AEP, UK)	
111	A-4727-280-A	DISPLAY BOARD, COMPLETE (AR, CND, MX, US)	
111	A-4727-283-A	DISPLAY BOARD, COMPLETE (HK, SP)	
111	A-4727-597-A	DISPLAY BOARD, COMPLETE (CH)	
112	4-235-965-01	SLIDE KNOB	
113	4-235-961-01	BASS/SELECT KNOB	
114	4-235-964-01	PRESET UP/DOWN KNOB	
115	4-235-994-01	PANEL FIXING PLATE	
116	4-235-960-01	POWER KNOB	
117	4-236-909-01	PAUSE KNOB	
118	4-236-910-01	RECORD KNOB	

7-4. CD CABINET SECTION



Ref. No.	Part No.	Description	Remark
151	4-235-971-01	PLASTIC COVER	
152	4-236-280-01	RUBBER, VIBRATION PROOF (PINK)	
153	4-235-991-01	PULLEY SCREW	
* 154	3-509-138-00	CLAMP, SPRING	
156	4-235-948-01	DISC HOLDER BKT	
157	1-471-144-11	MAGNET	
158	4-236-912-01	CD LID	
159	4-236-066-01	CD LID WINDOW	
160	4-235-970-01	NSX1 PUSH ROD	
161	4-235-990-01	CD EJECT SPRING	

Ref. No.	Part No.	Description	Remark
162	4-235-982-01	CD LID SPRING	
163	4-236-899-01	DAMPER	
164	4-236-911-01	CD TRAY (T2) (AEP, AR, CH, HK, MX, SP, UK)	
164	4-237-124-01	CD TRAY (T2) (CND, US)	
165	4-235-949-01	PU COVER	
166	1-796-189-11	MECH, CD (CS-21SC-1280)	
167	4-236-281-01	RUBBER, VIBRATION PROOF (ORG)	
168	4-236-860-01	METAL COVER	
SW300	1-692-960-21	SWITCH, PUSH (1 KEY) (OPEN/CLOSE)	

SECTION 8
ELECTRICAL PARTS LIST

DISPLAY

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  AR : Argentina model
  CH : Chinese model
  CND : Canadian model
  HK : Hong Kong model
  MX : Mexican model
  SP : Singapore model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-4727-038-A	DISPLAY BOARD, COMPLETE (AEP, UK)			
	A-4727-280-A	DISPLAY BOARD, COMPLETE (AR, CND, MX, US)			
	A-4727-283-A	DISPLAY BOARD, COMPLETE (HK, SP)			
	A-4727-597-A	DISPLAY BOARD, COMPLETE (CH)			
		**********			
	4-235-973-01	LCD REFLECTOR			
	4-236-918-01	EM5 LED & REMOTE SENSOR HOLDER			
	4-236-919-01	EM5 REC. KNOB LED HOLDER			
	7-685-534-14	SCREW +BTP 2.6X8 TYPE2 N-S			
		< CAPACITOR >			
C301	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C302	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C303	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C304	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C305	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C306	1-102-962-00	CERAMIC	30PF	5%	50V
C307	1-102-962-00	CERAMIC	30PF	5%	50V
C308	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C309	1-126-514-11	ELECT	22uF	20%	10V
C310	1-164-159-11	CERAMIC	0.1uF		50V
C311	1-164-159-11	CERAMIC	0.1uF		50V
C312	1-126-382-11	ELECT	100uF	20%	10V
C313	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C314	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C315	1-115-872-11	ELECT	2.2uF	20%	50V (AEP, UK)
C316	1-164-159-11	CERAMIC	0.1uF		50V (AEP, UK)
C317	1-126-382-11	ELECT	100uF	20%	10V (AEP, UK)
C318	1-163-135-00	CERAMIC CHIP	560PF	5%	50V (AEP, UK)
C319	1-163-135-00	CERAMIC CHIP	560PF	5%	50V (AEP, UK)
C320	1-126-382-11	ELECT	100uF	20%	10V (AEP, UK)
C321	1-163-038-00	CERAMIC CHIP	0.1uF		25V (AEP, UK)
C322	1-163-243-11	CERAMIC CHIP	47PF	5%	50V (AEP, UK)
C323	1-163-243-11	CERAMIC CHIP	47PF	5%	50V (AEP, UK)
C324	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C325	1-126-382-11	ELECT	100uF	20%	10V
C326	1-126-382-11	ELECT	100uF	20%	10V
C327	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C328	1-164-159-11	CERAMIC	0.1uF		50V
		< LIQUID CRYSTAL DISPLAY >			
CN301	1-804-496-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< DIODE >			
D301	8-719-991-33	DIODE 1SS133T-77			
D302	8-719-991-33	DIODE 1SS133T-77			
D303	8-719-991-33	DIODE 1SS133T-77			
D304	8-719-991-33	DIODE 1SS133T-77 (EXCEPT AEP, CH, UK)			
D305	8-719-991-33	DIODE 1SS133T-77			
D306	8-719-991-33	DIODE 1SS133T-77			
D307	8-719-991-33	DIODE 1SS133T-77			
D308	8-719-991-33	DIODE 1SS133T-77			
D309	8-719-991-33	DIODE 1SS133T-77			
D310	8-719-991-33	DIODE 1SS133T-77			
D311	8-719-991-33	DIODE 1SS133T-77 (AEP, UK)			
D312	8-719-062-11	LED SEL2215S-CD (TIMER)			
D313	8-719-062-11	LED SEL2215S-CD (●)			
D315	8-719-991-33	DIODE 1SS133T-77			
D316	8-719-991-33	DIODE 1SS133T-77			
D317	8-719-991-33	DIODE 1SS133T-77			
D318	8-719-991-33	DIODE 1SS133T-77 (AEP, UK)			
D701	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D702	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D703	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D704	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D705	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D706	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D707	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D708	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
D709	8-719-085-51	LED L934SGC/B (LCD BACK LIGHT)			
		< IC >			
IC301	6-800-711-01	IC uPD78064GF-187-3BA			
IC302	8-759-251-04	IC AT24C02-10PC			
IC304	8-759-971-11	IC PST529D			
IC305	8-759-557-36	IC BU1924F-E2 (AEP, UK)			

DISPLAY

Ref. No.	Part No.	Description			Remark
		< SHORT >			
J301	1-216-295-11	SHORT	0		
J302	1-216-295-11	SHORT	0		
J303	1-216-295-11	SHORT	0		
J304	1-216-295-11	SHORT	0		
J305	1-216-295-11	SHORT	0		
J306	1-216-295-11	SHORT	0 (AEP, CH, UK)		
J307	1-216-295-11	SHORT	0		
J309	1-216-295-11	SHORT	0		
J310	1-216-295-11	SHORT	0		
J312	1-216-295-11	SHORT	0		
J313	1-216-295-11	SHORT	0		
J314	1-216-295-11	SHORT	0		
J315	1-216-295-11	SHORT	0		
J316	1-216-295-11	SHORT	0		
J318	1-216-295-11	SHORT	0		
J321	1-216-295-11	SHORT	0		
J323	1-216-295-11	SHORT	0		
J324	1-216-295-11	SHORT	0		
J326	1-216-295-11	SHORT	0		
J328	1-216-295-11	SHORT	0		
J329	1-216-295-11	SHORT	0		
J332	1-216-295-11	SHORT	0		
J334	1-216-295-11	SHORT	0		
J337	1-216-295-11	SHORT	0		
J338	1-216-295-11	SHORT	0		
J339	1-216-295-11	SHORT	0		
J340	1-216-295-11	SHORT	0		
J349	1-216-295-11	SHORT	0 (AEP, UK)		
J362	1-216-295-11	SHORT	0 (AEP, UK)		
J371	1-216-295-11	SHORT	0		
J382	1-216-295-11	SHORT	0		
J384	1-216-295-11	SHORT	0		
J390	1-216-295-11	SHORT	0		
J451	1-216-295-11	SHORT	0		
J453	1-216-295-11	SHORT	0 (AEP, UK)		
J454	1-216-295-11	SHORT	0 (AEP, UK)		
J456	1-216-295-11	SHORT	0		
J457	1-216-295-11	SHORT	0		
		< TRANSISTOR >			
Q301	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q302	8-729-281-53	TRANSISTOR	2SC1815-GR (AEP, UK)		
Q303	8-729-900-63	TRANSISTOR	DTA124ES		
Q304	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q305	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q306	8-729-281-53	TRANSISTOR	2SC1815-GR		
		< RESISTOR >			
R301	1-216-073-00	RES-CHIP	10K	5%	1/10W
R302	1-216-073-00	RES-CHIP	10K	5%	1/10W
R303	1-216-073-00	RES-CHIP	10K	5%	1/10W
R304	1-216-073-00	RES-CHIP	10K	5%	1/10W
R305	1-216-073-00	RES-CHIP	10K	5%	1/10W
R306	1-216-049-11	RES-CHIP	1K	5%	1/10W
R307	1-249-416-11	CARBON	820	5%	1/4W
R308	1-249-419-11	CARBON	1.5K	5%	1/4W
R309	1-249-434-11	CARBON	27K	5%	1/4W
R310	1-249-417-11	CARBON	1K	5%	1/4W
R311	1-216-047-00	RES-CHIP	820	5%	1/10W
R312	1-249-424-11	CARBON	3.9K	5%	1/4W
R313	1-216-049-11	RES-CHIP	1K	5%	1/10W
R314	1-249-416-11	CARBON	820	5%	1/4W
R315	1-216-049-11	RES-CHIP	1K	5%	1/10W
R316	1-249-421-11	CARBON	2.2K	5%	1/4W
R317	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R318	1-249-427-11	CARBON	6.8K	5%	1/4W
R319	1-249-441-11	CARBON	100K	5%	1/4W
R320	1-216-049-11	RES-CHIP	1K	5%	1/10W
R321	1-216-049-11	RES-CHIP	1K	5%	1/10W
R322	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R323	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R324	1-216-033-00	METAL CHIP	220	5%	1/10W
R325	1-247-887-00	CARBON	220K	5%	1/4W
R326	1-249-417-11	CARBON	1K	5%	1/4W
R327	1-249-433-11	CARBON	22K	5%	1/4W
R328	1-216-037-00	METAL CHIP	330	5%	1/10W
R329	1-249-433-11	CARBON	22K	5%	1/4W
R330	1-216-121-11	RES-CHIP	1M	5%	1/10W
R331	1-216-049-11	RES-CHIP	1K	5%	1/10W
R332	1-216-049-11	RES-CHIP	1K	5%	1/10W
R334	1-216-049-11	RES-CHIP	1K	5%	1/10W (AEP, UK)
R335	1-216-049-11	RES-CHIP	1K	5%	1/10W
R336	1-249-417-11	CARBON	1K	5%	1/4W
R337	1-249-417-11	CARBON	1K	5%	1/4W
R338	1-216-105-00	RES-CHIP	220K	5%	1/10W
R339	1-249-437-11	CARBON	47K	5%	1/4W
R340	1-216-089-00	RES-CHIP	47K	5%	1/10W
R341	1-216-073-00	RES-CHIP	10K	5%	1/10W
R342	1-216-073-00	RES-CHIP	10K	5%	1/10W
R343	1-249-441-11	CARBON	100K	5%	1/4W (AEP, UK)
R344	1-216-097-11	RES-CHIP	100K	5%	1/10W (AEP, UK)
R345	1-249-417-11	CARBON	1K	5%	1/4W
R346	1-249-417-11	CARBON	1K	5%	1/4W
R347	1-216-049-11	RES-CHIP	1K	5%	1/10W
R348	1-247-791-11	CARBON	22	5%	1/4W (AEP, UK)
R349	1-249-409-11	CARBON	220	5%	1/4W (AEP, UK)
R350	1-249-421-11	CARBON	2.2K	5%	1/4W (AEP, UK)
R351	1-216-049-11	RES-CHIP	1K	5%	1/10W
R352	1-216-049-11	RES-CHIP	1K	5%	1/10W
R353	1-249-433-11	CARBON	22K	5%	1/4W
R354	1-216-049-11	RES-CHIP	1K	5%	1/10W
R355	1-216-049-11	RES-CHIP	1K	5%	1/10W
R356	1-216-049-11	RES-CHIP	1K	5%	1/10W
R357	1-216-089-00	RES-CHIP	47K	5%	1/10W
R358	1-216-049-11	RES-CHIP	1K	5%	1/10W
R359	1-249-429-11	CARBON	10K	5%	1/4W
R360	1-249-417-11	CARBON	1K	5%	1/4W
R361	1-216-049-11	RES-CHIP	1K	5%	1/10W

DISPLAY **HEADPHONE** **MAIN**

Ref. No.	Part No.	Description			Remark
R363	1-216-049-11	RES-CHIP	1K	5%	1/10W
R364	1-216-097-11	RES-CHIP	100K	5%	1/10W
R365	1-216-097-11	RES-CHIP	100K	5%	1/10W
R366	1-216-097-11	RES-CHIP	100K	5%	1/10W
R368	1-216-049-11	RES-CHIP	1K	5%	1/10W
R369	1-216-049-11	RES-CHIP	1K	5%	1/10W
R370	1-216-049-11	RES-CHIP	1K	5%	1/10W
R372	1-216-049-11	RES-CHIP	1K	5%	1/10W
R373	1-249-433-11	CARBON	22K	5%	1/4W
R380	1-216-081-00	METAL CHIP	22K	5%	1/10W
R382	1-247-887-00	CARBON	220K	5%	1/4W
R384	1-249-429-11	CARBON	10K	5%	1/4W
R386	1-216-295-11	SHORT	0		
R387	1-249-417-11	CARBON	1K	5%	1/4W
R388	1-249-437-11	CARBON	47K	5%	1/4W
R389	1-249-429-11	CARBON	10K	5%	1/4W
R391	1-249-417-11	CARBON	1K	5%	1/4W
R392	1-249-417-11	CARBON	1K	5%	1/4W
R393	1-249-429-11	CARBON	10K	5%	1/4W
R394	1-216-001-00	METAL CHIP	10	5%	1/10W (AEP, UK)
R395	1-216-295-11	SHORT	0		
R396	1-216-295-11	SHORT	0		
R701	1-249-407-11	CARBON	150	5%	1/4W
R702	1-249-407-11	CARBON	150	5%	1/4W
R703	1-249-407-11	CARBON	150	5%	1/4W
		< SWITCH >			
SW301	1-570-472-11	SWITCH, KEY BOARD (I/⏻)			
SW302	1-570-472-11	SWITCH, KEY BOARD (TUNER)			
SW303	1-570-472-11	SWITCH, KEY BOARD (TAPE)			
SW304	1-570-472-11	SWITCH, KEY BOARD (CD)			
SW305	1-570-472-11	SWITCH, KEY BOARD (PLAY MODE, RDS/DIR)			
SW306	1-570-472-11	SWITCH, KEY BOARD (■)			
SW307	1-570-472-11	SWITCH, KEY BOARD (❚❚)			
SW308	1-570-472-11	SWITCH, KEY BOARD (◀▶)			
SW309	1-570-472-11	SWITCH, KEY BOARD (TUNER MEM, ENTER)			
SW310	1-570-472-11	SWITCH, KEY BOARD (PRESET –)			
SW311	1-570-472-11	SWITCH, KEY BOARD (PRESET +)			
SW312	1-570-472-11	SWITCH, KEY BOARD (DISPLAY)			
SW313	1-570-472-11	SWITCH, KEY BOARD (TUNING –, ⏮ ◀◀)			
SW314	1-570-472-11	SWITCH, KEY BOARD (TUNING +, ▶▶ ⏭)			
SW315	1-570-472-11	SWITCH, KEY BOARD (MUSIC MENU)			
SW316	1-570-472-11	SWITCH, KEY BOARD (MEGA BASS)			
SW317	1-570-472-11	SWITCH, KEY BOARD (●)			
SW318	1-786-224-11	SW, SLIDE (MONO STEREO, ISS)			
		< VIBRATOR/IC/ROTARY ENCODER >			
X301	1-795-436-11	VIBRATOR, CRYSTAL (4.194304MHz)			
X302	8-749-016-29	IC RPM6938 (REMOTE CONTROL RECEIVER)			
X303	1-476-916-11	ENCODER (VOLUME)			
X304	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz) (AEP, UK)			
**********					
	A-4727-040-A	HEADPHONE BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C501	1-161-494-00	CERAMIC	0.022uF		25V
C502	1-161-494-00	CERAMIC	0.022uF		25V
		< JACK >			
JK401	1-815-813-11	JACK (LARGE TYPE) (PHONES)			
		< COIL >			
L501	1-410-521-11	INDUCTOR	100uH		
L502	1-410-521-11	INDUCTOR	100uH		
L503	1-410-501-11	INDUCTOR	2.2uH		
L504	1-410-521-11	INDUCTOR	100uH		
**********					
	A-4727-039-A	MAIN BOARD, COMPLETE (AEP, CH, UK)			
	A-4727-281-A	MAIN BOARD, COMPLETE (AR, CND, HK, MX, SP, US)			
		**********			
	7-682-548-04	SCREW +B 3X8			
		< BAND PASS FILTER >			
BPF901	1-234-704-11	FILTER, BAND PASS (FM) (EXCEPT AEP, CH, UK)			
		< CAPACITOR >			
C1	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V (AEP, CH, UK)
C2	1-126-935-11	ELECT	470uF	20%	16V
C3	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C4	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C5	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C6	1-163-117-00	CERAMIC CHIP	100PF	5%	50V (AEP, CH, UK)
C7	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V (AEP, CH, UK)
C8	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V (AEP, CH, UK)
C9	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C10	1-126-967-11	ELECT	47uF	20%	50V
C11	1-115-870-11	ELECT	0.47uF	20%	50V
C12	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C13	1-126-794-11	ELECT	4.7uF	20%	50V
C14	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C15	1-126-514-11	ELECT	22uF	20%	16V
C16	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C17	1-126-933-11	ELECT	100uF	20%	16V (AEP, CH, UK)
C18	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V (AEP, CH, UK)
C19	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, CH, UK)
C20	1-130-483-00	MYLAR	0.01uF	5%	50V
C21	1-130-483-00	MYLAR	0.01uF	5%	50V
C22	1-126-514-11	ELECT	22uF	20%	16V
C23	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, CH, UK)
C24	1-126-961-11	ELECT	2.2uF	20%	50V
C25	1-126-961-11	ELECT	2.2uF	20%	50V
C26	1-130-479-00	MYLAR	0.0047uF	5%	50V
C27	1-130-479-00	MYLAR	0.0047uF	5%	50V
C28	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C29	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C30	1-126-961-11	ELECT	2.2uF	20%	50V
C31	1-126-964-11	ELECT	10uF	20%	50V
C32	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C33	1-126-514-11	ELECT	22uF	20%	16V
C34	1-126-964-11	ELECT	10uF	20%	50V
					(AEP, CH, UK)
C35	1-126-961-11	ELECT	2.2uF	20%	50V
C36	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C37	1-130-479-00	MYLAR	0.0047uF	5%	50V
C38	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C39	1-130-479-00	MYLAR	0.0047uF	5%	50V
C40	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C41	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C42	1-126-960-11	ELECT	1uF	20%	50V
C43	1-126-964-11	ELECT	10uF	20%	50V
C44	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C45	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C46	1-126-962-11	ELECT	3.3uF	20%	50V
C47	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C48	1-126-961-11	ELECT	2.2uF	20%	50V
C49	1-126-935-11	ELECT	470uF	20%	16V
C50	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C51	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C52	1-126-935-11	ELECT	470uF	20%	16V
C53	1-126-960-11	ELECT	1uF	20%	50V
C54	1-126-960-11	ELECT	1uF	20%	50V
C55	1-126-935-11	ELECT	470uF	20%	16V
C56	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C57	1-126-935-11	ELECT	470uF	20%	16V
C58	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C59	1-126-933-11	ELECT	100uF	20%	16V
C60	1-130-491-00	MYLAR	0.047uF	5%	50V
C61	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C62	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C63	1-130-480-00	MYLAR	0.0056uF	5%	50V
C64	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C65	1-130-487-00	MYLAR	0.022uF	5%	50V
C66	1-130-479-00	MYLAR	0.0047uF	5%	50V
C67	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C68	1-130-489-00	MYLAR	0.033uF	5%	50V
C69	1-126-960-11	ELECT	1uF	20%	50V
C70	1-126-794-11	ELECT	4.7uF	20%	50V
C71	1-126-794-11	ELECT	4.7uF	20%	50V
C72	1-130-491-00	MYLAR	0.047uF	5%	50V
C73	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C74	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C75	1-130-480-00	MYLAR	0.0056uF	5%	50V
C76	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C77	1-130-487-00	MYLAR	0.022uF	5%	50V
C78	1-130-479-00	MYLAR	0.0047uF	5%	50V
C79	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C80	1-130-489-00	MYLAR	0.033uF	5%	50V
C81	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C82	1-126-961-11	ELECT	2.2uF	20%	50V
C83	1-126-794-11	ELECT	4.7uF	20%	50V
C84	1-126-959-11	ELECT	0.47uF	20%	50V
C85	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C86	1-126-794-11	ELECT	4.7uF	20%	50V
C87	1-126-960-11	ELECT	1uF	20%	50V
C88	1-126-933-11	ELECT	100uF	20%	16V
C89	1-126-961-11	ELECT	2.2uF	20%	50V
C90	1-126-794-11	ELECT	4.7uF	20%	50V
C91	1-126-794-11	ELECT	4.7uF	20%	50V
C92	1-126-934-11	ELECT	220uF	20%	16V
C93	1-126-961-11	ELECT	2.2uF	20%	50V
C94	1-126-961-11	ELECT	2.2uF	20%	50V
C95	1-126-964-11	ELECT	10uF	20%	50V
C96	1-104-665-11	ELECT	100uF	20%	25V
C97	1-126-935-11	ELECT	470uF	20%	16V
C99	1-126-942-61	ELECT	1000uF	20%	25V
C100	1-126-942-61	ELECT	1000uF	20%	25V
C101	1-104-665-11	ELECT	100uF	20%	25V
C102	1-126-960-11	ELECT	1uF	20%	50V
C103	1-104-665-11	ELECT	100uF	20%	25V
C104	1-126-960-11	ELECT	1uF	20%	50V
C105	1-104-665-11	ELECT	100uF	20%	25V
C106	1-130-495-00	MYLAR	0.1uF	5%	50V
C107	1-130-495-00	MYLAR	0.1uF	5%	50V
C108	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C109	1-126-960-11	ELECT	1uF	20%	50V
C110	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C111	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C112	1-164-159-11	CERAMIC	0.1uF		50V
C113	1-164-159-11	CERAMIC	0.1uF		50V
C114	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C115	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C116	1-126-794-11	ELECT	4.7uF	20%	50V
C117	1-164-159-11	CERAMIC	0.1uF		50V
C118	1-164-159-11	CERAMIC	0.1uF		50V
C119	1-164-159-11	CERAMIC	0.1uF		50V
C120	1-164-159-11	CERAMIC	0.1uF		50V
C121	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C122	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C123	1-126-514-11	ELECT	22uF	20%	16V
C124	1-126-934-11	ELECT	220uF	20%	16V
C125	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C126	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C127	1-126-934-11	ELECT	220uF	20%	16V
C128	1-126-934-11	ELECT	220uF	20%	16V
C129	1-130-495-00	MYLAR	0.1uF	5%	50V
C130	1-130-495-00	MYLAR	0.1uF	5%	50V
C131	1-126-933-11	ELECT	100uF	20%	16V
C132	1-126-933-11	ELECT	100uF	20%	16V
C133	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C134	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C135	1-126-794-11	ELECT	4.7uF	20%	50V
C136	1-126-794-11	ELECT	4.7uF	20%	50V
C137	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C138	1-126-934-11	ELECT	220uF	20%	16V
C139	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C140	1-126-960-11	ELECT	1uF	20%	50V
C141	1-126-971-11	ELECT	470uF	20%	50V
C142	1-126-934-11	ELECT	220uF	20%	16V
C143	1-126-964-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description			Remark
C144	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C145	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C146	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C147	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C148	1-130-491-00	MYLAR	0.047uF	5%	50V
C149	1-130-491-00	MYLAR	0.047uF	5%	50V
C150	1-126-934-11	ELECT	220uF	20%	16V
C151	1-126-934-11	ELECT	220uF	20%	16V
C152	1-126-964-11	ELECT	10uF	20%	50V
C153	1-126-934-11	ELECT	220uF	20%	16V
C154	1-130-487-00	MYLAR	0.022uF	5%	50V
C155	1-126-967-11	ELECT	47uF	20%	50V
C156	1-126-956-11	ELECT	0.1uF	20%	50V
C157	1-126-956-11	ELECT	0.1uF	20%	50V
C158	1-126-964-11	ELECT	10uF	20%	50V
C159	1-126-794-11	ELECT	4.7uF	20%	50V
C160	1-130-493-00	MYLAR	0.068uF	5%	50V
C161	1-126-964-11	ELECT	10uF	20%	50V
C162	1-130-493-00	MYLAR	0.068uF	5%	50V
C163	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C164	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C165	1-126-960-11	ELECT	1uF	20%	50V
C166	1-130-473-00	MYLAR	0.0015uF	5%	50V
C167	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C168	1-126-934-11	ELECT	220uF	20%	16V
C169	1-126-960-11	ELECT	1uF	20%	50V
C170	1-130-473-00	MYLAR	0.0015uF	5%	50V
C171	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C172	1-130-486-00	MYLAR	0.018uF	10%	50V
C173	1-130-471-00	MYLAR	0.001uF	5%	50V
C174	1-130-483-00	MYLAR	0.01uF	5%	50V
C175	1-130-471-00	MYLAR	0.001uF	5%	50V
C176	1-126-933-11	ELECT	100uF	20%	16V
C177	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C178	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C179	1-126-934-11	ELECT	220uF	20%	16V
C180	1-126-960-11	ELECT	1uF	20%	50V
C181	1-126-960-11	ELECT	1uF	20%	50V
C182	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C183	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C184	1-126-794-11	ELECT	4.7uF	20%	50V
C185	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C186	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C187	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C188	1-126-960-11	ELECT	1uF	20%	50V
C189	1-126-960-11	ELECT	1uF	20%	50V
C190	1-126-960-11	ELECT	1uF	20%	50V
C191	1-126-794-11	ELECT	4.7uF	20%	50V
C192	1-115-870-11	ELECT	0.47uF	20%	50V
C193	1-126-933-11	ELECT	100uF	20%	16V
C194	1-126-934-11	ELECT	220uF	20%	16V
C195	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C196	1-126-933-11	ELECT	100uF	20%	16V
C197	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C198	1-126-960-11	ELECT	1uF	20%	50V
C199	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C200	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C201	1-126-959-11	ELECT	0.47uF	20%	50V
C202	1-104-665-11	ELECT	100uF	20%	25V
C203	1-126-960-11	ELECT	1uF	20%	50V
C204	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C205	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C206	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C207	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C208	1-126-934-11	ELECT	220uF	20%	16V
C209	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C210	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C211	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C212	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C213	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C214	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C215	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C216	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C217	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C218	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C219	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C220	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C221	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C222	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C223	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C224	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C225	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C226	1-163-220-11	CERAMIC CHIP	3PF	0.25PF	50V
C227	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C228	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C229	1-163-133-00	CERAMIC CHIP	470PF	5%	50V (AEP, CH, UK)
C230	1-163-133-00	CERAMIC CHIP	470PF	5%	50V (AEP, CH, UK)
C231	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, CH, UK)
C232	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, CH, UK)
C233	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C901	1-104-699-11	CERAMIC CHIP	30PF	2%	50V (EXCEPT AEP, CH, UK)
C902	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (EXCEPT AEP, CH, UK)
C903	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V (EXCEPT AEP, CH, UK)
C904	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V (EXCEPT AEP, CH, UK)
C905	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V (EXCEPT AEP, CH, UK)
C906	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V (EXCEPT AEP, CH, UK)
C907	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (EXCEPT AEP, CH, UK)
C908	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V (EXCEPT AEP, CH, UK)
C909	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V (EXCEPT AEP, CH, UK)
C910	1-163-087-00	CERAMIC CHIP	4PF		50V (EXCEPT AEP, CH, UK)
C911	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (EXCEPT AEP, CH, UK)
C912	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V (EXCEPT AEP, CH, UK)

MAIN

Ref. No.	Part No.	Description	Remark
C913	1-163-229-11	CERAMIC CHIP 12PF 5% 50V	(EXCEPT AEP, CH, UK)
C914	1-163-085-00	CERAMIC CHIP 2PF 50V	(EXCEPT AEP, CH, UK)
C915	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	(EXCEPT AEP, CH, UK)
C916	1-104-760-11	CERAMIC CHIP 0.047uF 10% 50V	(EXCEPT AEP, CH, UK)
C917	1-104-760-11	CERAMIC CHIP 0.047uF 10% 50V	(EXCEPT AEP, CH, UK)
C918	1-104-760-11	CERAMIC CHIP 0.047uF 10% 50V	(EXCEPT AEP, CH, UK)
C919	1-126-933-11	ELECT 100uF 20% 16V	(EXCEPT AEP, CH, UK)
C920	1-104-760-11	CERAMIC CHIP 0.047uF 10% 50V	(EXCEPT AEP, CH, UK)
C921	1-104-760-11	CERAMIC CHIP 0.047uF 10% 50V	(EXCEPT AEP, CH, UK)
C922	1-163-239-11	CERAMIC CHIP 33PF 5% 50V	(EXCEPT AEP, CH, UK)
		< CERAMIC FILTER >	
CF2	1-795-437-11	FILTER, CERAMIC (10.7MHz) (AEP, CH, UK)	
CF3	1-795-437-11	FILTER, CERAMIC (10.7MHz)	
CF4	1-795-397-11	FILTER, CERAMIC (450kHz)	
CF5	1-795-437-11	FILTER, CERAMIC (10.7MHz) (AEP, CH, UK)	
		< CONNECTOR/TERMINAL >	
* CN2	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	(EXCEPT AEP, CH, UK)
* CN3	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	
* CN4	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P	
* CN5	1-564-713-11	PIN, CONNECTOR (SMALL TYPE) 11P	
CN7	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P	
* CN9	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
* CN11	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
CN12	1-778-310-11	PLUG, CONNECTOR 2P (AM ANT)	
CN13	1-694-848-11	TERMINAL BOARD (ANT FM) (FM ANT)	(AEP, CH, UK)
CN13	1-815-968-11	CONNECTOR (F TYPE) (FM ANT)	(EXCEPT AEP, CH, UK)
* CN14	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	
* CN15	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	
CN17	1-537-238-11	TERMINAL BOARD (SPEAKER)	
		< DIODE >	
D1	8-719-991-33	DIODE 1SS133T-77	
D2	8-719-991-33	DIODE 1SS133T-77	
D3	8-719-991-33	DIODE 1SS133T-77	
D4	8-719-991-33	DIODE 1SS133T-77	
D5	8-719-085-35	DIODE SVC348T	
D6	8-719-991-33	DIODE 1SS133T-77	
D7	8-719-991-33	DIODE 1SS133T-77	
D8	8-719-200-02	DIODE 10E2	
D10	8-719-991-33	DIODE 1SS133T-77	
D11	8-719-991-33	DIODE 1SS133T-77	
D12	8-719-991-33	DIODE 1SS133T-77	
D16	8-719-991-33	DIODE 1SS133T-77	
D17	8-719-991-33	DIODE 1SS133T-77	
D18	8-719-991-33	DIODE 1SS133T-77	

Ref. No.	Part No.	Description	Remark
D19	8-719-991-33	DIODE 1SS133T-77	
D20	8-719-991-33	DIODE 1SS133T-77	
D23	8-719-991-33	DIODE 1SS133T-77	
D24	8-719-991-33	DIODE 1SS133T-77	
D25	8-719-991-33	DIODE 1SS133T-77	
D26	8-719-991-33	DIODE 1SS133T-77	
D29	8-719-991-33	DIODE 1SS133T-77	
D32	8-719-991-33	DIODE 1SS133T-77	
D33	8-719-991-33	DIODE 1SS133T-77	
D35	8-719-991-33	DIODE 1SS133T-77	
D50	8-719-991-33	DIODE 1SS133T-77	
D903	8-719-991-33	DIODE 1SS133T-77	(EXCEPT AEP, CH, UK)
D904	8-719-991-33	DIODE 1SS133T-77	(EXCEPT AEP, CH, UK)
D905	8-719-070-77	DIODE SVC201SPA-M1-AC	(EXCEPT AEP, CH, UK)
D906	8-719-070-77	DIODE SVC201SPA-M1-AC	(EXCEPT AEP, CH, UK)
		< IC >	
IC901	8-759-697-57	IC TA2132AF (EL)	(EXCEPT AEP, CH, UK)
		< COIL >	
L1	1-424-945-11	INDUCTOR 8uH	(AEP, CH, UK)
L2	1-424-945-11	INDUCTOR 8uH	(AEP, CH, UK)
L3	1-424-946-11	INDUCTOR 47mH	
L4	1-424-946-11	INDUCTOR 47mH	
L5	1-424-933-11	COIL (BIAS)	
L6	1-410-509-11	INDUCTOR 10uH	
L7	1-410-509-11	INDUCTOR 10uH	
L8	1-410-509-11	INDUCTOR 10uH	
L9	1-410-509-11	INDUCTOR 10uH	
L901	1-424-942-11	COIL (FM OSC)	(EXCEPT AEP, CH, UK)
L902	1-424-941-11	COIL (FM ANT)	(EXCEPT AEP, CH, UK)
L903	1-414-142-11	INDUCTOR 1uH	(EXCEPT AEP, CH, UK)
		< TRANSISTOR >	
Q1	8-729-173-38	TRANSISTOR 2SA733-K	
Q2	8-729-823-13	TRANSISTOR 2SC999D-SPA-AC	(AEP, CH, UK)
Q3	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q4	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q5	8-729-823-13	TRANSISTOR 2SC2999D-SPA-AC	(AEP, CH, UK)
Q6	8-729-905-50	TRANSISTOR DTC343TS	
Q7	8-729-905-50	TRANSISTOR DTC343TS	
Q8	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q9	8-729-037-08	TRANSISTOR KTD2058Y	
Q10	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q11	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q12	8-729-173-38	TRANSISTOR 2SA733-K	
Q13	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q14	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q15	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q16	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q17	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q18	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q19	8-729-808-22	TRANSISTOR 2SB926TP-T	
Q20	8-729-281-53	TRANSISTOR 2SC1815-GR	

Ref. No.	Part No.	Description			Remark
Q21	8-729-116-82	TRANSISTOR	2SD1616-L		
Q22	8-729-116-82	TRANSISTOR	2SD1616-L		
Q24	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q25	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q26	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q27	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q28	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q29	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q30	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q31	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q32	8-729-173-38	TRANSISTOR	2SA733-K		
Q33	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q34	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q35	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q36	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q37	8-729-808-22	TRANSISTOR	2SB926TP-T		
Q38	8-729-116-82	TRANSISTOR	2SD1616-L		
Q39	8-729-029-86	TRANSISTOR	DTC124ES		
Q40	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q41	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q45	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q46	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q47	8-729-116-82	TRANSISTOR	2SD1616-L		
Q901	8-729-823-13	TRANSISTOR	2SC2999D-SPA-AC		(EXCEPT AEP, CH, UK)
		< RESISTOR >			
R1	1-216-067-00	METAL CHIP	5.6K	5% 1/10W	
R2	1-216-067-00	METAL CHIP	5.6K	5% 1/10W	
R3	1-249-409-11	CARBON	220	5% 1/4W	
R4	1-216-089-00	RES-CHIP	47K	5% 1/10W	
R5	1-216-073-00	RES-CHIP	10K	5% 1/10W	(AEP, CH, UK)
R6	1-216-081-00	METAL CHIP	22K	5% 1/10W	(AEP, CH, UK)
R7	1-249-429-11	CARBON	10K	5% 1/4W	
R8	1-216-037-00	METAL CHIP	330	5% 1/10W	(AEP, CH, UK)
R9	1-216-025-11	RES-CHIP	100	5% 1/10W	(AEP, CH, UK)
R10	1-216-099-00	METAL CHIP	120K	5% 1/10W	(AEP, CH, UK)
R11	1-216-041-00	METAL CHIP	470	5% 1/10W	(AEP, CH, UK)
R12	1-216-037-00	METAL CHIP	330	5% 1/10W	(AEP, CH, UK)
R13	1-216-017-00	RES-CHIP	47	5% 1/10W	
R14	1-216-065-00	RES-CHIP	4.7K	5% 1/10W	
R15	1-249-421-11	CARBON	2.2K	5% 1/4W	
R16	1-216-089-00	RES-CHIP	47K	5% 1/10W	
R17	1-216-049-11	RES-CHIP	1K	5% 1/10W	
R18	1-216-065-00	RES-CHIP	4.7K	5% 1/10W	
R19	1-216-089-00	RES-CHIP	47K	5% 1/10W	
R20	1-216-089-00	RES-CHIP	47K	5% 1/10W	
R21	1-216-025-11	RES-CHIP	100	5% 1/10W	(AEP, CH, UK)
R22	1-249-417-11	CARBON	1K	5% 1/4W	
R23	1-249-409-11	CARBON	220	5% 1/4W	
R24	1-216-061-00	RES-CHIP	3.3K	5% 1/10W	(AEP, CH, UK)
R25	1-216-053-00	METAL CHIP	1.5K	5% 1/10W	(AEP, CH, UK)
R26	1-216-113-00	METAL CHIP	470K	5% 1/10W	(AEP, CH, UK)
R27	1-216-109-00	METAL CHIP	330K	5% 1/10W	(AEP, CH, UK)
R28	1-249-417-11	CARBON	1K	5% 1/4W	(AEP, CH, UK)
R29	1-216-067-00	METAL CHIP	5.6K	5% 1/10W	
R30	1-216-073-00	RES-CHIP	10K	5% 1/10W	
R31	1-216-073-00	RES-CHIP	10K	5% 1/10W	
R32	1-216-689-11	METAL CHIP	39K	0.5% 1/10W	
R33	1-216-689-11	METAL CHIP	39K	0.5% 1/10W	
R34	1-216-063-00	RES-CHIP	3.9K	5% 1/10W	
R35	1-216-063-00	RES-CHIP	3.9K	5% 1/10W	
R36	1-216-063-00	RES-CHIP	3.9K	5% 1/10W	
R37	1-216-063-00	RES-CHIP	3.9K	5% 1/10W	
R38	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	
R39	1-216-077-00	RES-CHIP	15K	5% 1/10W	
R40	1-216-065-00	RES-CHIP	4.7K	5% 1/10W	
R41	1-216-001-00	METAL CHIP	10	5% 1/10W	
R42	1-216-067-00	METAL CHIP	5.6K	5% 1/10W	
R43	1-216-097-11	RES-CHIP	100K	5% 1/10W	
R44	1-249-393-11	CARBON	10	5% 1/4W	
R45	1-216-049-11	RES-CHIP	1K	5% 1/10W	
R46	1-216-049-11	RES-CHIP	1K	5% 1/10W	
R47	1-216-067-00	METAL CHIP	5.6K	5% 1/10W	
R48	1-249-421-11	CARBON	2.2K	5% 1/4W	
R49	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	
R50	1-216-073-00	RES-CHIP	10K	5% 1/10W	
R51	1-216-065-00	RES-CHIP	4.7K	5% 1/10W	
R52	1-216-049-11	RES-CHIP	1K	5% 1/10W	
R53	1-216-049-11	RES-CHIP	1K	5% 1/10W	
R54	1-216-049-11	RES-CHIP	1K	5% 1/10W	
R55	1-216-073-00	RES-CHIP	10K	5% 1/10W	
R56	1-249-429-11	CARBON	10K	5% 1/4W	
R57	1-216-029-00	METAL CHIP	150	5% 1/10W	
R58	1-216-065-00	RES-CHIP	4.7K	5% 1/10W	
R59	1-216-065-00	RES-CHIP	4.7K	5% 1/10W	
R60	1-216-089-00	RES-CHIP	47K	5% 1/10W	
R61	1-216-089-00	RES-CHIP	47K	5% 1/10W	
R62	1-249-401-11	CARBON	47	5% 1/4W	
R63	1-249-393-11	CARBON	10	5% 1/4W	
R64	1-216-073-00	RES-CHIP	10K	5% 1/10W	
R65	1-247-807-31	CARBON	100	5% 1/4W	
R66	1-249-425-11	CARBON	4.7K	5% 1/4W	
R67	1-216-073-00	RES-CHIP	10K	5% 1/10W	
R68	1-216-085-00	RES-CHIP	33K	5% 1/10W	
R69	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R70	1-216-089-00	RES-CHIP	47K	5% 1/10W	
R71	1-216-095-00	METAL CHIP	82K	5% 1/10W	
R72	1-216-063-00	RES-CHIP	3.9K	5% 1/10W	
R73	1-216-073-00	RES-CHIP	10K	5% 1/10W	
R74	1-216-085-00	RES-CHIP	33K	5% 1/10W	
R75	1-216-071-00	METAL CHIP	8.2K	5% 1/10W	
R76	1-216-073-00	RES-CHIP	10K	5% 1/10W	

MAIN

Ref. No.	Part No.	Description			Remark
R77	1-249-417-11	CARBON	1K	5%	1/4W
R78	1-216-085-00	RES-CHIP	33K	5%	1/10W
R79	1-216-081-00	METAL CHIP	22K	5%	1/10W
R80	1-216-089-00	RES-CHIP	47K	5%	1/10W
R81	1-216-095-00	METAL CHIP	82K	5%	1/10W
R82	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R83	1-216-073-00	RES-CHIP	10K	5%	1/10W
R84	1-216-085-00	RES-CHIP	33K	5%	1/10W
R85	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R86	1-216-073-00	RES-CHIP	10K	5%	1/10W
R87	1-216-095-00	METAL CHIP	82K	5%	1/10W
R88	1-216-085-00	RES-CHIP	33K	5%	1/10W
R89	1-216-085-00	RES-CHIP	33K	5%	1/10W
R90	1-216-077-00	RES-CHIP	15K	5%	1/10W
R91	1-216-091-00	METAL CHIP	56K	5%	1/10W
R92	1-216-091-00	METAL CHIP	56K	5%	1/10W
R93	1-216-079-00	METAL CHIP	18K	5%	1/10W
R94	1-216-049-11	RES-CHIP	1K	5%	1/10W
R95	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R96	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R97	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R98	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R99	1-216-079-00	METAL CHIP	18K	5%	1/10W
R100	1-216-097-11	RES-CHIP	100K	5%	1/10W
R101	1-216-097-11	RES-CHIP	100K	5%	1/10W
R102	1-216-049-11	RES-CHIP	1K	5%	1/10W
R103	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R104	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R105	1-216-089-00	RES-CHIP	47K	5%	1/10W
R106	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R107	1-216-077-00	RES-CHIP	15K	5%	1/10W
R108	1-249-413-11	CARBON	470	5%	1/4W
R109	1-216-097-11	RES-CHIP	100K	5%	1/10W
R110	1-216-097-11	RES-CHIP	100K	5%	1/10W
R111	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R112	1-216-081-00	METAL CHIP	22K	5%	1/10W
R113	1-249-421-11	CARBON	2.2K	5%	1/4W
R114	1-249-402-11	CARBON	56	5%	1/4W
R115	1-216-097-11	RES-CHIP	100K	5%	1/10W
R116	1-216-049-11	RES-CHIP	1K	5%	1/10W
R117	1-216-097-11	RES-CHIP	100K	5%	1/10W
R118	1-216-083-00	METAL CHIP	27K	5%	1/10W
R119	1-216-089-00	RES-CHIP	47K	5%	1/10W
R120	1-249-426-11	CARBON	5.6K	5%	1/4W
R121	1-249-426-11	CARBON	5.6K	5%	1/4W
R122	1-249-437-11	CARBON	47K	5%	1/4W
R123	1-216-097-11	RES-CHIP	100K	5%	1/10W
R124	1-216-095-00	METAL CHIP	82K	5%	1/10W
R125	1-249-417-11	CARBON	1K	5%	1/4W
R126	1-249-417-11	CARBON	1K	5%	1/4W
R127	1-249-432-11	CARBON	18K	5%	1/4W
R128	1-249-432-11	CARBON	18K	5%	1/4W
R129	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R130	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R131	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R132	1-216-089-00	RES-CHIP	47K	5%	1/10W
R133	1-216-089-00	RES-CHIP	47K	5%	1/10W
R134	1-249-429-11	CARBON	10K	5%	1/4W
R135	1-216-073-00	RES-CHIP	10K	5%	1/10W
R136	1-249-440-11	CARBON	82K	5%	1/4W
R137	1-216-095-00	METAL CHIP	82K	5%	1/10W
R138	1-216-073-00	RES-CHIP	10K	5%	1/10W
R139	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R140	1-249-429-11	CARBON	10K	5%	1/4W
R141	1-216-089-00	RES-CHIP	47K	5%	1/10W
R142	1-216-049-11	RES-CHIP	1K	5%	1/10W
R143	1-216-097-11	RES-CHIP	100K	5%	1/10W
R144	1-249-403-11	CARBON	68	5%	1/4W (EXCEPT AEP, CH, UK)
R144	1-249-409-11	CARBON	220	5%	1/4W (AEP, CH, UK)
R145	1-216-063-00	RES-CHIP	3.9K	5%	1/10W (EXCEPT AEP, CH, UK)
R145	1-216-065-00	RES-CHIP	4.7K	5%	1/10W (AEP, CH, UK)
R146	1-249-389-11	CARBON	4.7	5%	1/4W
R147	1-249-389-11	CARBON	4.7	5%	1/4W
R148	1-216-085-00	RES-CHIP	33K	5%	1/10W
R149	1-216-085-00	RES-CHIP	33K	5%	1/10W
R150	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R151	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R152	1-216-097-11	RES-CHIP	100K	5%	1/10W
R153	1-216-073-00	RES-CHIP	10K	5%	1/10W
R154	1-216-077-00	RES-CHIP	15K	5%	1/10W
R155	1-216-077-00	RES-CHIP	15K	5%	1/10W
R156	1-216-073-00	RES-CHIP	10K	5%	1/10W
R157	1-216-073-00	RES-CHIP	10K	5%	1/10W
R158	1-249-417-11	CARBON	1K	5%	1/4W
R159	1-249-417-11	CARBON	1K	5%	1/4W
R160	1-249-421-11	CARBON	2.2K	5%	1/4W
R161	1-216-097-11	RES-CHIP	100K	5%	1/10W
R162	1-216-073-00	RES-CHIP	10K	5%	1/10W
R163	1-216-049-11	RES-CHIP	1K	5%	1/10W (AEP, CH, UK)
R163	1-216-067-00	RES-CHIP	5.6K	5%	1/10W (EXCEPT AEP, CH, UK)
R164	1-216-073-00	RES-CHIP	10K	5%	1/10W
R165	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R166	1-216-073-00	RES-CHIP	10K	5%	1/10W
R167	1-216-049-11	RES-CHIP	1K	5%	1/10W
R168	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R169	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R170	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R171	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R172	1-216-093-11	RES-CHIP	68K	5%	1/10W
R173	1-216-093-11	RES-CHIP	68K	5%	1/10W
R174	1-247-807-31	CARBON	100	5%	1/4W
R175	1-216-097-11	RES-CHIP	100K	5%	1/10W
R176	1-216-085-00	RES-CHIP	33K	5%	1/10W
R177	1-216-081-00	METAL CHIP	22K	5%	1/10W
R178	1-216-081-00	METAL CHIP	22K	5%	1/10W
R179	1-216-081-00	METAL CHIP	22K	5%	1/10W
R180	1-216-081-00	METAL CHIP	22K	5%	1/10W
R181	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R182	1-216-077-00	RES-CHIP	15K	5%	1/10W
R183	1-216-061-00	RES-CHIP	3.3K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R184	1-216-077-00	RES-CHIP	15K	5%	1/10W
R185	1-216-117-00	METAL CHIP	680K	5%	1/10W
R186	1-249-409-11	CARBON	220	5%	1/4W
R187	1-216-085-00	RES-CHIP	33K	5%	1/10W
R188	1-216-077-00	RES-CHIP	15K	5%	1/10W
R189	1-216-077-00	RES-CHIP	15K	5%	1/10W
R190	1-216-073-00	RES-CHIP	10K	5%	1/10W
R191	1-216-089-00	RES-CHIP	47K	5%	1/10W
R192	1-216-073-00	RES-CHIP	10K	5%	1/10W
R193	1-216-049-11	RES-CHIP	1K	5%	1/10W
R194	1-216-049-11	RES-CHIP	1K	5%	1/10W
R195	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R196	1-216-085-00	RES-CHIP	33K	5%	1/10W
R197	1-249-394-11	CARBON	12	5%	1/4W
R198	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R199	1-216-085-00	RES-CHIP	33K	5%	1/10W
R200	1-249-394-11	CARBON	12	5%	1/4W
R201	1-216-079-00	METAL CHIP	18K	5%	1/10W
R202	1-249-435-11	CARBON	33K	5%	1/4W
R203	1-216-073-00	RES-CHIP	10K	5%	1/10W
R204	1-216-085-00	RES-CHIP	33K	5%	1/10W
R205	1-216-079-00	METAL CHIP	18K	5%	1/10W
R206	1-216-049-11	RES-CHIP	1K	5%	1/10W
R207	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R208	1-216-083-00	METAL CHIP	27K	5%	1/10W
R209	1-216-085-00	RES-CHIP	33K	5%	1/10W
R210	1-216-085-00	RES-CHIP	33K	5%	1/10W
R211	1-216-017-00	RES-CHIP	47	5%	1/10W
R212	1-216-073-00	RES-CHIP	10K	5%	1/10W
R213	1-216-097-11	RES-CHIP	100K	5%	1/10W
R214	1-216-089-00	RES-CHIP	47K	5%	1/10W
R215	1-216-085-00	RES-CHIP	33K	5%	1/10W
R216	1-249-409-11	CARBON	220	5%	1/4W
R217	1-249-417-11	CARBON	1K	5%	1/4W
R218	1-216-095-00	METAL CHIP	82K	5%	1/10W
R219	1-216-049-11	RES-CHIP	1K	5%	1/10W
R220	1-216-049-11	RES-CHIP	1K	5%	1/10W
R221	1-216-099-00	METAL CHIP	120K	5%	1/10W
R222	1-216-099-00	METAL CHIP	120K	5%	1/10W
R223	1-216-025-11	RES-CHIP	100	5%	1/10W
R224	1-216-085-00	RES-CHIP	33K	5%	1/10W
R225	1-216-049-11	RES-CHIP	1K	5%	1/10W
R226	1-249-425-11	CARBON	4.7K	5%	1/4W
R227	1-216-097-11	RES-CHIP	100K	5%	1/10W
R228	1-216-081-00	METAL CHIP	22K	5%	1/10W
R229	1-216-081-00	METAL CHIP	22K	5%	1/10W
R230	1-216-081-00	METAL CHIP	22K	5%	1/10W
R231	1-216-117-00	METAL CHIP	680K	5%	1/10W
R232	1-216-049-11	RES-CHIP	1K	5%	1/10W
R233	1-216-097-11	RES-CHIP	100K	5%	1/10W
R234	1-216-117-00	METAL CHIP	680K	5%	1/10W
R235	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R236	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R237	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R238	1-249-413-11	CARBON	470	5%	1/4W
R239	1-219-237-11	SOLID	3.3M	20%	1/2W (EXCEPT AEP, CH, UK)
R240	1-216-097-11	RES-CHIP	100K	5%	1/10W
R241	1-216-097-11	RES-CHIP	100K	5%	1/10W
R242	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R243	1-249-417-11	CARBON	1K	5%	1/4W
R244	1-216-081-00	METAL CHIP	22K	5%	1/10W
R245	1-216-097-11	RES-CHIP	100K	5%	1/10W
R246	1-249-411-11	CARBON	330	5%	1/4W
R247	1-216-089-00	RES-CHIP	47K	5%	1/10W
R248	1-216-089-00	RES-CHIP	47K	5%	1/10W
R249	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R250	1-216-097-11	RES-CHIP	100K	5%	1/10W
R251	1-216-117-00	METAL CHIP	680K	5%	1/10W
R252	1-216-073-00	RES-CHIP	10K	5%	1/10W
R254	1-247-791-11	CARBON	22	5%	1/4W
R256	1-216-081-00	METAL CHIP	22K	5%	1/10W
R258	1-249-409-11	CARBON	220	5%	1/4W
R259	1-216-073-00	RES-CHIP	10K	5%	1/10W
R260	1-216-089-00	RES-CHIP	47K	5%	1/10W
R261	1-216-095-00	METAL CHIP	82K	5%	1/10W
R901	1-249-393-11	CARBON	10	5%	1/4W (EXCEPT AEP, CH, UK)
R902	1-249-437-11	CARBON	47K	5%	1/4W (EXCEPT AEP, CH, UK)
R903	1-249-437-11	CARBON	47K	5%	1/4W (EXCEPT AEP, CH, UK)
R905	1-249-399-11	CARBON	33	5%	1/4W (EXCEPT AEP, CH, UK)
R906	1-247-883-00	CARBON	150K	5%	1/4W (EXCEPT AEP, CH, UK)
R907	1-249-417-11	CARBON	1K	5%	1/4W (EXCEPT AEP, CH, UK)
R908	1-247-807-31	CARBON	100	5%	1/4W (EXCEPT AEP, CH, UK)
R909	1-249-414-11	CARBON	560	5%	1/4W (EXCEPT AEP, CH, UK)
R910	1-249-409-11	CARBON	220	5%	1/4W (EXCEPT AEP, CH, UK)

< SWITCH >

SW1	1-786-229-11	SWITCH, SLIDE (AM FREQ STEP) (EXCEPT AEP, CH, UK)

< COIL >

T1	1-424-934-11	COIL (AM IFT)
T2	1-424-938-11	COIL (FILTER)
T3	1-424-938-11	COIL (FILTER)
T4	1-424-939-11	COIL (FILTER)
T5	1-424-937-11	COIL (FM DTC)
T6	1-424-936-11	COIL (AM ANT)
T8	1-424-935-11	COIL (AM OSC)
T901	1-424-940-11	COIL (FM IFT) (EXCEPT AEP, CH, UK)

< TRIMMER >

TC1	1-141-411-11	CAP, ADJ 20PF
TC901	1-141-411-11	CAP, ADJ 20PF (EXCEPT AEP, CH, UK)

< IC/TUNER >

U1	8-759-656-00	IC LA1837L
U2	8-759-346-57	IC LC72131M-TL-M
U3	8-759-989-89	IC BA4558N

MAIN POWER

Ref. No.	Part No.	Description	Remark
U4	1-693-564-11	TUNER (AEP, CH, UK)	
U6	8-759-473-59	IC LC75392	
U7	8-759-231-58	IC TA7812S	
U8	8-759-701-75	IC NJM7805FA	
U9	8-759-576-76	IC TDA2822D013TR	
U10	8-759-701-59	IC NJM78M09FA	
U11	6-700-957-01	IC LA4282	
U12	8-759-079-42	IC uPC1330HA-NA	
U13	6-700-579-01	IC AN7312	
U14	8-759-933-50	IC BA335	
U15	8-759-009-22	IC MC14094BF	
		< VIBRATOR >	
X2	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)	
		< DIODE >	
Z1	8-719-947-13	DIODE MTZJ-T-72-4.7B	
Z2	8-719-110-17	DIODE RD10ESB2	
Z4	8-719-110-36	DIODE MTZJ-T-72-13B	
ZD901	8-719-983-63	DIODE MTZJ-T-72-3.3B	(EXCEPT AEP, CH, UK)
**********			
	A-4727-041-A	POWER BOARD, COMPLETE	(AEP, AR, CH, HK, SP, UK)
	A-4727-282-A	POWER BOARD, COMPLETE (CND, MX, US)	
		**********	
	1-533-217-31	HOLDER, FUSE	
		< CAPACITOR >	
C601	1-119-940-51	ELECT 4700uF 20%	50V
C602	1-126-963-11	ELECT 4.7uF 20%	50V
C604	1-128-551-11	ELECT 22uF 20%	25V
C605	1-164-159-21	CERAMIC 0.1uF	50V
C606	1-164-159-21	CERAMIC 0.1uF	50V
C608	1-164-159-21	CERAMIC 0.1uF	50V
C609	1-164-159-21	CERAMIC 0.1uF	50V
⚠C610	1-113-889-11	CERAMIC 0.001uF 10%	250V
C611	1-164-159-21	CERAMIC 0.1uF	50V
C612	1-164-159-21	CERAMIC 0.1uF	50V
C615	1-126-935-11	ELECT 470uF 20%	16V
C618	1-164-159-21	CERAMIC 0.1uF	50V
C626	1-126-943-11	ELECT 2200uF 20%	25V
C627	1-164-159-21	CERAMIC 0.1uF	50V
C641	1-164-159-21	CERAMIC 0.1uF	50V
C643	1-164-159-21	CERAMIC 0.1uF	50V
C644	1-164-159-21	CERAMIC 0.1uF	50V
		< CONNECTOR >	
* CN601	1-506-710-11	PLUG, CONNECTOR (2.5mm) 8P	
		< DIODE >	
D601	8-719-077-63	DIODE 1N5402	
D602	8-719-077-63	DIODE 1N5402	
D603	8-719-077-63	DIODE 1N5402	
D604	8-719-077-63	DIODE 1N5402	
D605	8-719-200-02	DIODE 10E2	
D606	8-719-200-02	DIODE 10E2	
D607	8-719-200-02	DIODE 10E2	
D608	8-719-200-02	DIODE 10E2	
D612	8-719-991-33	DIODE 1SS133T-77	
D613	8-719-991-33	DIODE 1SS133T-77	
D615	8-719-200-02	DIODE 10E2	
D616	8-719-200-02	DIODE 10E2	
D617	8-719-200-02	DIODE 10E2	
D618	8-719-200-02	DIODE 10E2	
D621	8-719-200-02	DIODE 10E2	
		< FUSE >	
⚠F601	1-533-419-11	FUSE, GLASS CYLINDRICAL (DIA.5) (4A/125V)	(CND, MX, US)
⚠F601	1-533-471-11	FUSE, GLASS TUBE (DIA.5) (T4AL/250V)	(AEP, AR, CH, HK, SP, UK)
⚠F602	1-533-296-11	FUSE, GLASS CYLINDRICAL (DIA.5) (2A/125V)	(CND, MX, US)
⚠F602	1-533-468-11	FUSE, GLASS TUBE (DIA.5) (T2AL/250V)	(AEP, AR, CH, HK, SP, UK)
		< COIL >	
⚠L601	1-424-944-11	INDUCTOR 400uH	
		< TRANSISTOR >	
Q605	8-729-173-38	TRANSISTOR 2SA733-K	
Q606	8-729-281-53	TRANSISTOR 2SC1815-GR	
		< RESISTOR >	
R602	1-249-407-11	CARBON 150 5%	1/4W
R603	1-249-426-11	CARBON 5.6K 5%	1/4W
R618	1-249-437-11	CARBON 47K 5%	1/4W
R619	1-249-417-11	CARBON 1K 5%	1/4W
R621	1-249-437-11	CARBON 47K 5%	1/4W
R622	1-249-403-11	CARBON 68 5%	1/4W
R623	1-249-437-11	CARBON 47K 5%	1/4W
⚠R625	1-219-237-11	SOLID 3.3M 20%	1/2W (CND, MX, US)
		< RELAY >	
⚠RE601	1-755-446-11	RELAY (AEP, AR, CH, HK, SP, UK)	
⚠RE601	1-755-448-11	RELAY (CND, MX, US)	
		< TRANSFORMER >	
⚠T602	1-437-462-11	TRANSFORMER, POWER	(AEP, AR, CH, HK, SP, UK)
⚠T602	1-437-475-11	TRANSFORMER, POWER (CND, MX, US)	
		< DIODE >	
Z601	8-719-109-93	DIODE RD6.2ESB2	
**********			
		MISCELLANEOUS	
		**********	
⚠6	1-555-750-00	CORD, POWER (AEP, HK, SP, UK)	
⚠6	1-782-464-21	CORD, POWER (CH)	
⚠6	1-783-525-31	CORD, POWER (TRACKING) (MX)	
⚠6	1-783-820-11	CORD, POWER (CND, US)	
⚠6	1-783-941-51	CORD, POWER (AR)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

Ref. No.	Part No.	Description	Remark
64	1-796-228-11	DECK, MECH (TCM) (CRL3439)	
157	1-471-144-11	MAGNET	
166	1-796-189-11	MECH, CD (CS-21SC-1280)	
SW300	1-692-960-21	SWITCH, PUSH (1 KEY) (OPEN/CLOSE)	
⚠T601	1-437-513-11	TRANSFORMER, POWER	(AEP, AR, CH, HK, SP, UK)
⚠T601	1-437-514-11	TRANSFORMER, POWER (CND, MX, US)	

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****
HARDWARE LIST
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#1	7-685-534-14	SCREW +BTP 2.6X8 TYPE2 N-S	
#2	7-685-647-14	SCREW +BVTP 3X10 TYPE2 SLIT	
#3	7-682-246-04	SCREW +K 3X5	
#4	7-685-535-14	SCREW +BTP 2.6X10 TYPE2 N-S	
#5	7-685-648-14	SCREW +BVTP 3X12 TYPE2 SLIT	
#6	7-685-504-19	SCREW +BTP 2X6 TYPE2 N-S	
#7	7-623-916-21	FIBER WASHER 3.3,SMALL	
#8	7-685-233-19	SCREW +KTP 2.6X6 TYPE2NON-SLIT	
#9	7-624-106-04	STOP RING 3.0, TYPE -E	
#11	7-685-135-19	SCREW (+ PTPWH) (2.6X10)	
#12	7-685-646-14	SCREW +BVTP 3X8 TYPE2 SLIT	

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ACCESSORIES
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⚠	1-569-008-21	ADAPTOR, CONVERSION (SP)	
⚠	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK, HK)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性．因此只能以规定号码的零部件来更换．

REVISION HISTORY

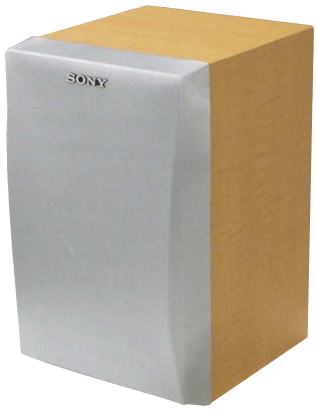
Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.1	2001.09	Addition of Chinese Model
1.0	2001.06	New

SS-CEP50

SERVICE MANUAL

Ver 1.1 2001.09



US Model
Canadian Model
AEP Model
UK Model
E Model
Chinese Model

- SS-CEP50 is the speaker system in CMT-EP50.

SPECIFICATIONS

Speaker system	Bass-reflex type
Speaker units	Full range 10 cm, cone type
Nominal impedance	8 Ω
Dimensions (w/h/d)	Approx. 145 × 238 × 171 mm
Mass	Approx. 1.4 kg net per speaker

Design and specifications are subject to change without notice.

PARTS LIST

Part No.	Description	Remark
1-544-956-11	SPEAKER UNIT	
3-029-170-01	FOOT (SPK)	

SPEAKER SYSTEM

9-873-159-02
2001I0500-1
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Home Audio Company
Shinagawa Tec Service Manual Production Group

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Ver.	Date	Description of Revision
1.1	2001.09	Addition of Chinese model.
1.0	2001.05	New